FEB 11 1985
C1.2:Au8/4/983
ORIGINAL
COMPLETED

The U.S. Automobile Industry, 1983

Report to the Congress
from the
Secretary of Commerce
December 1984

The U.S. Automobile Industry, 1983

U.S. DEPARTMENT OF COMMERCE
Malcolm Baldrige, Secretary

Lionel H. Olmer, Under Secretary
for International Trade

Robert E. Watkins, Deputy Assistant Secretary
for Automotive Affairs and Consumer Goods

Report to the Congress from the Secretary of Commerce
December 1984

[illegible] I

BLANK PAGE

II MICROFILMED

THE SECRETARY OF COMMERCE
Washington, D.C. 20230

JAN 11 1985

President of the Senate
Speaker of the House of Representatives

Sirs:

I am pleased to submit The U.S. Automobile Industry, 1983 in accordance with Section 12 (b) of the Chrysler Corporation Loan Guarantee Act of 1979, P.L. 96-185.

In last year's report, we identified several critical trends affecting the competitive position of the domestic automobile industry. These trends included a major shift in demand toward smaller vehicles; the growing importance of automotive trade; rising import competition; and widespread government use of trade restrictions to manage the adjustment burden in auto producing nations undergoing rapid structural change. These basic trends continue to be the predominant factors affecting the U.S. and international automobile markets.

U.S. automobile producers, following more than a year of strong sales and profit recovery, are better prepared to address the longer-term competitive challenges they face, but their financial strength still has not recovered to historic levels. Of most immediate concern to the U.S. industry is the need to reduce the substantial cost advantage of Japanese manufacturers in small car production. While domestic manufacturers may have narrowed the underlying U.S.-Japan production cost disparity through productivity improvements during the last few years, this progress has been offset at least partially by adverse exchange rate movements. The success of U.S. industry efforts in the small car sector will have an important bearing on the level of future motor vehicle manufacturing in North America, and on the long-term competitiveness of domestic producers' larger vehicle lines.

The challenges facing the U.S. auto industry are great, but the prospects for its full recovery and long-term competitive success are currently much greater than most observers anticipated even two years ago. As a result of dramatic cost cutting, the combined U.S. industry's break-even level has been reduced by about 30 percent since 1980. Massive industry investment in new products, plant and equipment have resulted in an entirely new line-up of advanced products, substantial productivity gains and higher vehicle quality. These achievements, plus increased sales volume and the Japanese restraint on auto exports to the United States, have enabled U.S. producers to return to profitability, retire debt and rebuild working capital.

Significant positive developments also have occurred in the area of labor-management relations. This fall, General Motors and Ford signed new labor contracts with the United Auto Workers which provide greater job security and retraining possibilities for auto workers, while preserving necessary management flexibility to control costs and increase productivity. We are very pleased by the high degree of labor-management cooperation embodied in the new contracts. This type of cooperation is necessary for the U.S. industry to continue its dramatic restructuring.

U.S. policy has played an important role during the last three years. The Administration's far-reaching economic recovery program, including tax and spending cuts and regulatory reform, has led to increased U.S. motor vehicle sales, higher employment and reduced inflationary pressures on the auto industry. In addition, the Administration staunchly has opposed enactment of protectionist legislation, which, in the long run, would hinder the industry's efforts to restore its competitive position.

Japanese Government policy, specifically the four years of unilateral restraint on automobile exports to the United States has helped the U.S. industry to adjust to increased competition by providing a necessary "breathing space" during a critical transition period. Consequently, it is a temporary measure which must not become permanent and thus reduce necessary competition in the marketplace. Despite this restraint, the United States remains the largest, most open auto market in the world.

The industry's financial recovery is not yet complete. Continued profitability over the next few years is necessary to restore U.S. auto company balance sheets to more healthy 1977-1978 levels, and to fund future investment programs. During the next five years, U.S. auto manufacturers plan to invest over $50 billion in new products, plant and equipment, thus building upon the efforts they made in 1980-84 to improve their worldwide competitiveness. This investment, perhaps more than any other single indicator, demonstrates the extent of U.S. producers' commitment to resolving their competitive difficulties.

The primary role of government will continue to be the sound management of the economy to foster economic growth, investment, and job creation. A healthy economic environment is the single most important factor in sustaining a dynamic U.S. automobile industry.

Sincerely,

Malcolm Baldrige

Malcolm Baldrige

Enclosure

Acknowledgements

This report was prepared under the general direction of Robert E. Watkins, Deputy Assistant Secretary for Automotive Affairs and Consumer Goods and his predecessor, Michael A. Driggs. Albert T. Warner, Acting Director, Office of Automotive Industry Affairs provided detailed supervision. Christopher M. Bates served as the principal analyst and drafter of the report. Other members of the study team included Robert V. Coleman, John Hartmann, Joanne Gross and Kerry Lanham. John O'Donnell of the Transportation Systems Center (Department of Transportation) in Cambridge, Massachuetts, also contributed in a major way to the research effort. In addition, helpful comments on early drafts of the report were provided by members of the Industry Sector Advisory Committee on Transportation, Construction and Agricultural Equipment (ISAC 16), an advisory group to the U.S. Department of Commerce and the Office of the U.S. Trade Representative, and by major U.S. manufacturers of automobiles and light trucks. The Department gratefully acknowledges the assistance of these individuals and organizations during preparation of this report.

BLANK PAGE

Table of Contents

Acknowledgements v

Table of Contents vii

List of Figures and Tables ix

Chapter I: Introduction 1

Chapter II: U.S. Auto Industry Performance, January 1983-June 1984 6

- U.S. Car Sales 6
- U.S. Truck Sales 13
- Industry Employment and Labor Relations Trends 18
- Industry Financial Performance 23

Chapter III: Competitive Status of the U.S. Auto Industry 34

- Financial Condition of the U.S. Auto Industry 34
- Comparison of U.S. and Foreign Producers' Competitive Status 39
  - o Comparison of Product Offerings 39
  - o Comparison of Vehicle Quality 43
  - o Comparison of Manufacturing Costs 45
- Comparison of U.S. and Foreign Producers' Operating Performance and Financial Condition 51

Chapter IV: Prospects for the U.S. Industry Through 1990 58

- Global Factors Affecting the U.S. Auto Industry 58
- World Motor Vehicle Demand Estimates 59
- Domestic Factors Affecting the U.S. Auto Industry 61
- U.S. Vehicle Sales Outlook, 1985 and 1990 69
- Future Product Plans of U.S. Manufacturers 72
- Financial Outlook for U.S. Auto Manufacturers 75
- Industry Employment Outlook 78

Chapter V: The Role of Government Policies Toward the Auto Industry 79

- Government Actions on Behalf of the Auto Industry, 1981-84 79
- Japanese Automobile Export Restraint 81
- Ongoing Regulatory Issues 81
- The Challenge of Assisting the Unemployed 82

Appendix I: Classification of Automobiles by Market Segment 90

Appendix II: Japanese Producers - Anticipated Product Actions 92

Appendix III: Vehicle Classification - 1985 Sales Forecast 95

Appendix IV: U.S. Producers - Anticipated Product Actions by Size Class 97

List of Figures and Tables

Tables

I-1 World Production of Motor Vehicles 2
II-1 New Passenger Retail Car Sales in the United States 7
II-2 Segment Shares of Total U.S. Car Sales 8
II-3 Japanese Mix of Subcompact and Compact Car Sales in the United States 11
II-4 U.S. Sales of Passenger Cars by Japanese Fiscal Year 12
II-5 Retail Truck Sales in the United States 13
II-6 U.S. Employment for Major Domestic Auto Companies 19
II-7 Profit Sources for 1983 and First Half of 1984 24
II-8 Major Sources and Uses of Funds from Operations 26
II-9 Financial Adjustments to Cover Shortfalls from Operations 27
II-10 Domestic Auto Company Worldwide Capital Investment 28
II-11 Ratio of Worldwide Industry Capital Spending to Net Sales 29
II-12 Payroll Costs and Revenues: U.S. Big Four 31
II-13 U.S. Vehicle Output Per Employee 32
II-14 Total Costs and Revenue: U.S. Big Three 33

III-1 Return on Sales and Equity 35
III-2 Ratio Analysis of Industry Financial Condition 36
III-3 Trends in Industry Working Capital 37
III-4 Most Important Attributes in New Vehicle Purchase Decision 44
III-5 Hourly Compensation Rates for Production Workers in Motor Vehicle and Equipment Manufacturing 48
III-6 Annual Vehicle Output Per Worker: United States and Japan 50
III-7 Regional Comparison of Changes in Operating Performance for Selected Vehicle Manufacturers 53
III-8 Regional Comparison of Changes in Financial Performance and Condition for Selected Motor Vehicle Manufacturers 56

IV-1 World Car and Truck Sales Forecasts 60
IV-2 Average Age of Passenger Cars in Use in the United States 63
IV-3 Yearly Expenditures on Personal Transportation as a Percent of Personal Consumption Expenditures 64
IV-4 New Car Prices and Average Consumer Expenditures for New Automobiles 65
IV-5 Projected U.S.-Based Japanese and Joint U.S.-Japanese Production in the United States 68
IV-6 U.S. Big Three Profits, Dividends and Payout Ratios, 1975-83 76

V-1 Auto Worker Unemployment Experience Results 86
V-2 Household Income for Laid/off Auto Workers, 1982 88
V-3 Household Income for Laid/off Auto Workers by Layoff, Age, and Seniority Bracket 89

Figures

II-1 Compact Van Profile 16
II-2 Light, Medium and Heavy Truck Market Segments 17
III-1 U.S. Market Subcompact and Compact Model Introductions 41

CHAPTER I: INTRODUCTION

This report is the fourth prepared in accordance with the Chrysler Loan Guarantee Act of 1979, which requires an annual Executive Branch assessment of the economic condition of the U.S. automobile industry.

In the 1982 report, the Commerce Department identified several key trends affecting the long-term competitiveness of the U.S. automobile industry:

- a fundamental shift in consumer demand toward smaller, more fuel-efficient vehicles which previously had only a limited market in the United States;
- a dramatic expansion of world trade in motor vehicles, primarily due to increased Japanese auto exports to the United States and Europe;
- growing competitive pressures on domestic vehicle producers to improve quality, control costs and develop new products while adjusting their productive capacity to reflect changed consumer preferences, lower industry-wide sales volumes and slower market growth; and
- widespread government use of import restrictions to manage the adjustment burden in auto producing nations which resulted from these changes in the competitive environment.

These trends emerged in the mid-1970s, but did not present serious challenges to U.S. auto manufacturers until a second round of oil price shocks in 1979 fundamentally altered the competitive environment in the world motor vehicle industry. Between 1978 and 1982, total world production of motor vehicles fell 14 percent. The majority of this decline occurred in the United States, where production dropped 45 percent in response to higher fuel prices and sluggish economic conditions.

In the United States in particular, gasoline prices rose sharply from 1979 to 1981 and led to a dramatic shift in consumer demand in favor of the smaller, more fuel-efficient automobiles that have long been popular in overseas markets. Between 1978 and 1981, gasoline prices increased 109 percent in the United States--compared with 22 percent in Western Europe and only 9 percent in Japan--as a result of the OPEC price increase and long-standing differences in government energy policies. With the shift in consumer demand toward smaller cars, the U.S. market became much more receptive to automobiles produced overseas and thus the focus of increased international competition. The greater openness of the U.S. market to Japanese automobile exports in comparison with other major producing nations' markets further contributed to this situation.

Table I-1

World Production of Motor Vehicles
(thousands of units)

	U.S.	Western Europe	Japan	Other Areas	Total
1971	10,650	13,014	5,811	4,750	34,225
1972	11,293	13,431	6,299	4,826	35,949
1973	12,668	14,130	7,985	5,707	39,590
1974	9,884	12,485	6,552	6,131	35,152
1975	8,969	11,366	6,942	6,758	34,035
1976	11,487	13,116	7,841	6,826	39,270
1977	12,699	13,527	8,515	6,662	41,403
1978	12,895	13,566	9,269	6,888	42,618
1979	11,475	13,730	9,636	7,521	42,362
1980	8,009	12,795	11,043	7,039	38,886
1981	7,941	11,951	11,180	6,782	37,854
1982	6,985	12,233	10,737	6,710	36,665
1983	9,204	13,077	11,112	7,105	40,498

Source: Ward's Automotive Reports, various issues

The U.S. auto industry, faced with falling sales and substantial excess large car capacity, was unprepared to respond fully to the sudden shift in consumer demand toward small, fuel-efficient vehicles. Virtually overnight, the small car share of the U.S. market jumped from 27 percent to 54.2 percent in 1979 and increased further to 61.5 percent in 1981. Because U.S. producers did not have sufficient small car production capacity in place to adjust to this change in demand, importers--in particular the Japanese producers--had a unique opportunity to increase penetration of the U.S. market. The imports' share of the U.S. market rose from 17.7 percent of the total new car sales in 1978 to a peak of 27.9 percent in 1982.

Four consecutive years of declining sales placed all domestic automobile manufacturers under great financial stress and resulted in the near bankruptcy of one U.S. auto company. Even as sales were falling, major capital investments were needed to meet the new demands of consumers and to anticipate demand once a recovery occurred. The combination of large losses and record capital expenditure requirements led to major funds shortfalls from operations totaling over $30 billion between 1979 and 1982. Domestic vehicle manufacturers financed their operations and investment programs during this period through massive increases in debt, heavy erosions of working capital and the sale of non-automotive assets. In the process, industry cash flow was severely strained and debt became a major part of U.S. car makers' financial structures for the first time in recent industry history.

Reflecting the decline in U.S. producers' sales share, employment in the domestic motor vehicle and equipment industry fell sharply from a peak of 1,058,000 employees in December 1978 to a low of 648,000 employees in November 1982, a reduction of 39 percent.[1] In comparison, the drop in industry employment during the 1973-75 recession was 28 percent from peak to trough. From 1980 to 1983, between 150,000 and 269,000 workers were on indefinite layoff with the number peaking in January 1983. The most immediate and severe effects of industry unemployment appear to have been mitigated, partially through the availability of income maintenance and other support programs sponsored by Federal, state and local governments and the auto companies themselves. However, longer-term labor adjustment problems remain within the industry. These include the retraining and placement of workers whose jobs have been or are likely to be eliminated because of lower industry production volumes, productivity improvements or other factors.

By late 1982, the Administration's far-reaching economic recovery and regulatory reform programs had created the foundation necessary for a strong rebound in U.S. motor vehicle sales. With this foundation in place, aggressive U.S. industry efforts since 1979 to improve competitiveness began to show results. However, several extraordinary factors, including the Japanese restraint on auto exports to the United States* and the industry's highly favorable short-term tax situation, also contributed to the positive earnings and sales performances of domestic vehicle producers during 1983 and 1984.

---

[1] Bureau of Labor Statistics, employment series for the "Motor Vehicle and Equipment" industry (SIC 371).

Over the last five years, U.S. auto manufacturers have made major investments in new products, plants, manufacturing equipment and processes that have resulted in completely new vehicle line-ups, major productivity gains and quality improvements. At the same time, strict cost control measures--including work force reductions, new inventory management procedures, and changes in procurement practices--have lowered domestic car producers' break-even levels. Together, these accomplishments have helped U.S. auto manufacturers to restore profitability, retire debt, and begin rebuilding working capital. Although the industry's financial recovery is not yet complete, projected earnings over the next few years should be sufficient to restore corporate balance sheets to near pre-recession levels, barring a significant economic downturn.

While the U.S. industry is now in a much better position than it was in 1980-82 to respond effectively to changed consumer demand and strong foreign competition, the basic competitive challenges it faces have changed very little. Consumer demand for small, fuel-efficient cars and compact trucks remains far above pre-1979 levels, despite the recent stabilization in fuel prices and attendant rise in short-term sales of larger vehicles. Japanese manufacturers continue to play a key role in setting quality and performance standards for these vehicles, and they retain a substantial production cost advantage over U.S. producers. Motor vehicle trade, though growing much more slowly than during the 1978-82 period, still plays a central role in the industry's evolution. Finally, worldwide protectionist pressures and the current strength of the U.S. dollar relative to the Japanese yen and major European currencies pose serious threats to necessary long-term U.S. auto industry adjustments.

---

*This subject is discussed in greater detail in Chapter V.

Three principal challenges will face the U.S. vehicle industry during the balance of the decade:

- limiting future increases in total labor costs per unit through gains in salaried and hourly worker productivity and the development of a more competitive compensation system;
- improving productivity and all aspects of product quality through defect prevention and closer integration of the product development and manufacturing functions of suppliers and assemblers; and
- developing new products and manufacturing technologies which will enhance long-term prospects for full-line car production and greater industry employment security in North America.*

Only by meeting these basic challenges can U.S. manufacturers expect to compete effectively against Japanese producers, who have not stood still during the last five years. Japanese auto manufacturers have continued to invest heavily in new products and are well positioned to serve an expanding portion of the North American market during the balance of the 1980s. The most immediate competitive problem for U.S. producers, however, is overcoming Japan's strong cost advantage in the production of small automobiles. The domestic industry's response to this challenge will determine to a great extent its ability to compete effectively in all market segments over the longer term.

---

* For the purposes of this report, North America refers to the United States and Canada. Since 1965, when the two countries signed an agreement providing for duty-free trade in motor vehicles and original equipment automotive parts, the U.S. and Canadian markets for automotive products have become increasingly unified.

CHAPTER II: U.S. AUTO INDUSTRY PERFORMANCE
JANUARY 1983 - JUNE 1984

From virtually any standpoint, 1983 was a dramatic turnaround year for the U.S. auto industry. Total car and truck sales rose 16.8 rcent from 10.54 million units in 1982 to 12.31 million units in 983. In the second half of the year, medium and heavy truck producers began to participate fully in the industry's recovery. Industry employment also picked up as the year progressed, so that nearly 160,000 more workers were employed at the end of 1983 than at the end of 1982.

As the pace of sales and output accelerated, the financial performance of domestic vehicle manufacturers rebounded quickly. Combined profits of the U.S. Big Four producers rose to a record $6.15 billion, and individual company earnings records were set by every manufacturer except American Motors, which only regained profitability at the end of the year. In constant (1972) dollar terms, the rebound in industry profits was somewhat less impressive. Adjusted 1983 profits of $2.85 billion were below total adjusted profits of over $3 billion in both 1977 and 1978. The large improvement in earnings since 1983 demonstrates the success of the industry's major cost-cutting efforts since 1979 and the positive cumulative effects of productivity and quality gains. However, it also reflects the positive effects on the U.S. industry of the Japanese restraints on auto exports and of substantial tax loss carryforwards arising in previous unprofitable years.

The industry's rebound continued during the first half of 1984. In this period, U.S. car and truck sales grew 20 and 41 percent, respectively, compared to the first half of 1983. U.S. auto industry employment also rose steadily during the first six months of 1984, reaching about 870,000 workers in June, the highest average monthly level since December 1979. Industry profitability more than doubled in nominal terms, rising from $2.8 billion in the first two quarters of 1983 to $6.5 billion in the same period of 1984. This strong operating and financial performance should continue during the balance of 1984 and 1985 in the absence of a major economic shock to the U.S. auto industry.

U.S. Car Sales

Total retail car sales in the United States increased 15 percent between 1982 and 1983, from 7.98 million units to 9.18 million units. As a result of overall market growth and the Japanese auto export restraints, the total import share of the U.S. car market decreased from 27.9 percent to 26.0 percent during 1983, and the Japanese share of this market declined from 22.5 percent to 20.4 percent. These were the lowest annual import penetration levels since 1979.

During the first half of 1984, total U.S. sales of new passenger cars increased to 5.48 million units, up from 4.55 million in the first two quarters of 1983. Domestic-make automobiles accounted for virtually all of the sales gain during the first half of 1984. Total import penetration fell sharply from 26.7 percent in the first half of 1983 to 22.5 percent in the same period of 1984. Japanese car sales declined from 980,000 to 941,000 units, for a decrease of more than 4 percentage points in Japan's share of the U.S. new car market. Sharply reduced car exports from Japan during the final quarter of the restraint year ending March 31, 1984 contributed directly to this weaker Japanese sales performance.

Table II-1

New Passenger Retail Car Sales in the United States
(millions of units)

	Total Sales	Domestic Sales	Total Import Sales*	Japanese Import Sales	Total Import Share	Japanese Import Share
1978	11.31	9.31	2.00	1.36	17.7%	12.0%
1979	10.67	8.34	2.33	1.77	21.9	16.6
1980	8.98	6.58	2.40	1.91	26.7	21.2
1981	8.54	6.21	2.33	1.86	27.3	21.8
1982	7.98	5.76	2.22	1.80	27.9	22.5
1983	9.18	6.80	2.39	1.92	26.0	20.4
Jan.-June 1983	4.55	3.34	1.21	0.98	26.7	21.5
Jan.-June 1984	5.48	4.25	1.23	0.94	22.5	17.2

---

* Import sales throughout this report exclude Canadian-built automobiles and trucks sold by traditional U.S. vehicle manufacturers.

Source: Ward's Automotive Reports

Several important shifts in sales share occurred among the five primary car segments and contributed to the substantial growth in domestic industry earnings during the January 1983-June 1984 period. The most significant of these shifts was the large increase in the market share of intermediate cars from 1982 to 1983 and through the first half of 1984. This shift occurred largely at the expense of the compact and subcompact classes and was closely linked with the continued stability of fuel prices. A smaller, though significant, expansion of the full-size car share also took place during 1983, but this gain was partially lost in the January-June period of 1984. Luxury car sales held a fairly steady share of the market from 1982 to 1983 and then increased markedly during the first six months of 1984. Collectively, these trends indicate that U.S. consumers as a group moved slightly "up market" between January 1983 and June 1984, with the greatest concentration of increased buying occurring in the intermediate segment.

Table II-2

Segment Shares of Total U.S. Car Sales*
(Percent)

	1982	1983	Jan.-June 1983	Jan.-June 1984
Subcompact	44.1	42.5	43.2	41.8
Compact	16.4	12.7	13.0	12.3
Intermediate	20.3	24.5	23.4	25.1
Full-Size	11.6	12.6	12.8	12.3
Luxury	7.6	7.7	7.6	8.5
Total	100.0	100.0	100.0	100.0

Source: Wards Automotive Reports.

* See Appendix I for a list of automobiles classified in each of the market segments appearing in Table II-2.

While the shift in consumer preference toward larger cars had a positive impact on domestic producers' unit margins, it also had a major negative side effect. Industry planning regarding average fuel economy levels was based on the expectation that gradual increases in energy prices would stabilize the small car (subcompact and compact) share of the U.S. market at 60 to 65 percent. (The 1981 share was 61.5 percent.) Instead, due to lower fuel prices, the small car share dropped to 55.2 percent in 1983 and to 54.1 percent in the first half of 1984.

As a result of this unanticipated change in product mix, General Motors and Ford could not meet the 1983 model year corporate average fuel economy (CAFE) standard for passenger cars, and are unlikely to meet the 1984 model year standard. If the current model mix of sales continues, GM and Ford could again fall short of the standard in model year 1985. Under federal law, civil penalties for noncompliance with CAFE standards are $5 per vehicle produced for every 0.1 mpg each company's average fuel economy falls below the standard.

The two companies used fuel economy credits earned for exceeding 1980-82 model year standards to meet the 1983 penalties and part of the 1984 penalties. Ford recently received approval from the National Highway Traffic Safety Administration (NHTSA) of its application for advance CAFE credits based on projections that it will earn sufficient credits in future years to offset anticipated short-falls in the 1984 and 1985 model years. NHTSA expects that General Motors also may apply for advance CAFE credits to cover likely shortfalls during the same period. Provided these two companies' average fuel economy projections are realized, they will continue to avoid actual payment of fines for falling below CAFE standards.

During 1983 and the first half of 1984, Japanese companies also benefited from U.S. consumers' increased willingness to purchase larger, more fully equipped vehicles. The trend toward higher sales of upscale Japanese autos is recorded in Table II-3, which shows that large Japanese subcompact and compact (Nissan Maxima and Toyota Cressida) cars accounted for only 18 percent of the total 1980 car sales of the four Japanese manufacturers represented, but for nearly 28 percent in 1983 and 31 percent during the first six months of 1984.

Although the Japanese auto export restraints may have accelerated the movement of Japanese auto manufacturers into upscale markets, a market shift of this magnitude could not have resulted solely from the restraints. Japanese plans to export upscale small vehicles already were underway before the restraints were announced.

Because the restraints fixed the number of Japanese units which could be exported, they effectively froze total U.S. sales of Japanese cars. By the third year of export limitations, when total U.S. car sales finally rose, the restraints helped reduce Japan's market share significantly. As Table II-4 illustrates, on a Japanese fiscal year basis, the Japanese share of U.S. retail car sales dropped to 18.9 percent in the period April 1983-March 1984, well below the 22.0 and 22.6 percent shares recorded in the first and second restraint years, respectively. This level of Japanese import penetration was about 1 percentage point above that recorded during the April 1979-March 1980 period, one full year before the Japanese auto export restraints took effect.

The corollary to the recent loss of market share held by Japanese cars was that U.S. manufacturers took essentially all of the growth in the market. As the economy stabilized and more buyers moved into the market, the limited number of Japanese cars, coupled with the wide range of new and restyled domestic products, helped push demand for U.S.-built cars higher. Stabilized gasoline prices and lower interest rates provided an additional boost to this trend.

Table II-3

Sales Mix of Selected Japanese Subcompact and Compact Cars in the United States*

Period	Total Small Car Sales (Units)	Basic Subcompact (%)	Large Subcompact and Compact (%)	Sporty Subcompact (%)
1980	1,636,099	55.2	18.0	25.7
1981	1,578,089	56.8	20.3	21.9
1982	1,529,987	53.7	23.0	22.3
1983	1,652,128	49.0	27.7	20.5
Jan.-June 1983	845,896	51.2	26.9	20.8
Jan.-June 1984	857,276	43.3	31.0	22.2

---

*All Toyota, Nissan, Honda and Mazda car models are included. Examples of vehicles included in each class are: 1) basic subcompact - Toyota Corolla, Nissan Sentra, Honda Civic, Mazda GLC; 2) large subcompact and compact - Toyota Camry, Nissan Maxima, Honda Accord, Mazda 626; 3) sporty subcompact - Toyota Celica, Nissan 300ZX, Honda Prelude, Mazda RX-7. Vans and utility vehicles are excluded.

Source: Wards Automotive Reports

Table II-4

U.S. Sales of Passenger Cars*
(In Millions of Units)

	Total Sales	Domestic Sales	Japanese Sales	Domestic Share (%)	Japanese Share (%)
Years Prior to Restraint					
April 1, 1979- March 31, 1980	10.36	7.92	1.88	76.4	18.1
April 1, 1980- March 31, 1981	8.84	6.46	1.89	73.1	21.4
1st Restraint Year (April 1, 1981- March 31,1982)					
Quarter: 1	2.21	1.58	.50	71.5	22.6
Quarter: 2	2.19	1.62	.46	74.0	21.0
Quarter: 3	1.76	1.28	.38	72.7	21.6
Quarter: 4	1.94	1.40	.44	72.2	22.7
Total	8.10	5.87	1.78	72.5	22.0
2nd Restraint Year (April 1, 1982- March 31, 1983)					
Quarter: 1	2.09	1.53	.44	73.2	21.1
Quarter: 2	1.91	1.33	.48	69.6	25.1
Quarter: 3	2.03	1.49	.43	73.4	21.2
Quarter: 4	2.05	1.46	.47	71.2	22.9
Total	8.08	5.81	1.83	71.9	22.6
3rd Restraint Year (April 1, 1983- March 31, 1984)					
Quarter: 1	2.50	1.88	.49	75.2	19.6
Quarter: 2	2.24	1.65	.46	73.7	20.5
Quarter: 3	2.39	1.81	.45	75.7	18.8
Quarter: 4	2.58	1.99	.44	77.0	17.0
Total	9.71	7.33	1.84	75.5	18.9

---

*Columns may not add due to rounding.

Source: Wards Automotive Reports. Captive car imports from Japan are included in the Japanese sales total.

U.S. Truck Sales

U.S. retail truck sales rose by 22.4 percent from 2.56 million units in 1982 to 3.13 million units in 1983. Truck sales increased 40.7 percent in the first six months of 1984 compared to the same period of 1983. The increase in total truck sales was largely due to the strong rebound in light truck sales which occurred throughout the January 1983-June 1984 period. However, medium and heavy truck sales also played a significant role in the industry's recovery beginning in the late summer of 1983.

Table II-5

Retail Truck Sales in the United States
(millions of units)

	Total Sales		Domestic Sales		Import Sales*		Import Share%	
	All Classes	Light	Total	Light	Total	Light	Total	Light
1978	4.11	3.74	3.77	3.41	0.34	0.33	8.3	8.8
1979	3.48	3.10	3.01	2.64	0.47	0.46	13.5	14.8
1980	2.49	2.19	2.00	1.71	0.49	0.48	19.7	21.9
1981	2.26	2.03	1.81	1.59	0.45	0.44	19.9	21.7
1982	2.56	2.38	2.15	1.97	0.41	0.41	15.9	17.1
1983	3.13	2.94	2.67	2.48	0.46	0.46	14.8	15.8
Jan.-June 1983	1.49	1.41	1.28	1.20	0.21	0.21	14.1	15.0
Jan.-June 1984	2.10	1.97	1.81	1.68	0.29	0.29	14.0	14.9

---

* Includes captive Japanese imports of U.S. manufacturers

Source: Ward's Automotive Reports, Motor Vehicle Manufacturers Association

Light Trucks

Domestic compact pickup trucks, utility vehicles and vans have revolutionized the light truck market over the past three years. In 1978, when over 3.7 million light trucks* were sold, only about 9 percent of such sales were compact trucks and all of these vehicles were Japanese-built. During 1983, in contrast, compact trucks accounted for 47.5 percent of the 2.94 million-unit light truck market. The domestic-built share of the compact truck market rose from zero in 1978 to 49 percent in 1982, and to about 60 percent in 1983 and the first half of 1984.

Since the start of 1984, Chrysler has been the only U.S. producer to import Japanese-built compact trucks. GM and Ford now build domestically all of the compact trucks they sell in the United States, with the exception of the Chevrolet El Camino and GMC Caballero which now are made in Mexico. Moreover, in mid-1983, Nissan Motor Manufacturing Corporation U.S.A., a subsidiary of Nissan Motor Co., Ltd. of Japan, began building compact pickup trucks at a new facility in Smyrna, Tennessee.

The increase in the domestic share of the compact truck market largely reflects the substitution by U.S. manufacturers of captive Japanese imports (i.e., Chevrolet Luv, Ford Courier, Dodge Ram 50) for domestically built units of more recent design. This shift in production was facilitated by the U.S. Custom Service's 1980 decision to reclassify imported compact Japanese trucks as "unfinished" automobile trucks dutiable at 25 percent rather than as "cab chassis" dutiable at 4 percent ad valorem.

Despite the recent large-scale substitution of U.S.-built trucks for captive Japanese imports, Japanese manufacturers continue to place strong competitive pressure on domestic producers. Japanese imports as a percentage of total U.S. compact truck sales remained approximately constant between January 1983 and June 1984. However, the total U.S. sales share of Japanese companies in this market (including U.S.-built trucks but excluding U.S. captive import trucks) rose significantly during this period. Japanese firms captured 54 percent of total U.S. compact pickup truck sales in the first half of 1984, up from 43.2 percent in the first half of 1983 and from 41.1 percent in full-year 1982. Increased sales of U.S.-built Nissan pickup trucks accounted for most of this gain in Japanese sales share.

---

*For the purposes of this report, light trucks include pickup trucks, utility vehicles and vans of 14,000 pounds gross vehicle weight or less.

Within the smaller, but more rapidly growing U.S. markets for compact utility vehicles and vans, domestic firms currently hold a sizeable sales lead over foreign producers. Both markets have emerged within the last two years. General Motors sold about 128,000 Blazer "S" and Jimmy "S" utility vehicles in 1983, versus about 9,400 units in their 1982 introductory year. Ford introduced its Bronco II compact utility truck in 1983 and sold around 63,200 units. Collectively, the new domestic compact utility vehicles outsold their standard-sized versions by a 2.3:1 margin in their first full year of existence.

Due to the success of GM and Ford compact pickup and utility trucks, Chrysler recently decided to introduce its own line of compact trucks. American Motors also recently introduced compact versions of its Jeep Cherokee and Wagoneer. Similarly, Mitsubishi, Toyota and Isuzu now offer compact sports utility trucks (the Montero, 4-Runner and Trooper II, respectively). As a result of these new product introductions, Japanese companies gained just over 3 percent of total compact utility vehicle sales during the first half of 1984.

Compact Van Market

In 1983, Chrysler, through its own compact vans and captive Mitsubishi-built vans, and Toyota became the first producers to offer compact vans in the U.S. market. During the 1985 model year, General Motors and Ford will introduce their own compact vans to compete against these Chrysler and Toyota products. (See Figure II-1.) Compact van sales totaled about 20,600 units in 1983 and about 125,000 units in the first half of 1984. In comparison, over 575,000 and 300,000 conventional vans were sold in 1983 and the first six months of 1984, respectively.

By mid-1985, GM, Ford and Chrysler will have retooled three assembly plants and will have the capacity to produce approximately 700,000 compact vans a year. Nissan, Mazda, Mitsubishi and AMC's partner Renault are looking closely at introducing their own compact vans in the United States to compete with U.S. entries. Independent market research analysts now project a compact van market of between 400,000 and 600,000 units in 1985. Considerable uncertainty exists about which market segments will lose sales as the compact van market flourishes. However, some studies indicate that at least the smallest compact vans will draw from station wagon sales.

Figure II-1

COMPACT VAN PROFILE

	INTRODUCTION	CAPACITY	WHEELBASE	LENGTH	ENGINES	DRIVETRAIN	MARKET FOCUS
General Motors . Chevrolet Astro . GMC Safari	Fall 1984	250,000	111.0"	173.0"	2.5L L-4 2.8L V-6	RWD	Conventional passenger and commercial van buyers
Ford . Aerostar	Spring 1985	200,000	119.0"	175.0"	2.3L L-4 2.8L V-6	RWD	Conventional passenger and commercial van buyers
Chrysler . Dodge Caravan . Plymouth Voyager . Dodge Mini Ram Van	Winter 1983	250,000 (Canada)	112.0"	176.0"	2.2L L-4 2.6L L-4	FWD	Station wagon, passenger van and commercial van buyers
Chrysler/ Mitsubishi . Plymouth Vista* . Dodge Vista*	Fall 1983	NA	103.0"	175.0"	2.0L L-4	FWD	Station wagon buyers
Toyota . Van Wagon*	Fall 1983	NA	88.0	175.0"	2.0L L-4	RWD	Station wagon and passenger van and cargo van buyers
. Cargo Van	Spring 1984	NA	88.0	175.0"	2.0L L-4	RWD	

---

* Classified as cars
NA = not applicable

Source: Automotive News; Wards Automotive Reports.

Medium and Heavy Truck Sales

Sales of light trucks and vans are split between business use and personal use, with 50 to 60 percent going to personal use. Sales of medium and heavy duty trucks (classes 4-8, see Figure II-2 below), on the other hand, are almost exclusively business purchases and respond to economic variables primarily relating to industrial output.

Figure II-2

Light, Medium and Heavy Truck Market Segments

Market Segment	Vehicle Size (Gross Vehicle Weight)
Light Trucks:	
Class 1	6,000 lbs. and less
Class 2	6,001 - 10,000 lbs.
Class 3	10,000 - 14,000 lbs.
Medium Trucks:	
Class 4	14,001 - 16,000 lbs.
Class 5	16,001 - 19,500 lbs.
Class 6	19,501 - 26,000 lbs.
Class 7*	26,001 - 33,000 lbs.
Heavy Trucks:	
Class 8	33,001 lbs. and over

---

* Frequently classified as heavy rather than medium trucks.

Source: Wards Automotive Reports

The general economic recovery that began in early 1983 did not foster immediately higher sales of medium and heavy trucks. The sales rebound in these segments of the industry began in August 1983, and has accelerated since that time. U.S. retail sales of medium and heavy trucks were about 189,000 units in 1983, only 2.7 percent higher than in 1982 (184,000 units). These were the worst sales years for the industry in over ten years. Medium and heavy truck sales totaled about 130,000 units in the first half of 1984 and are likely to exceed 250,000 units for the year as a whole. However, estimated 1984 sales of medium and heavy trucks will remain far below the peak 1979 level of 375,000 units.

Until very recently, importer inroads into the medium and heavy truck market largely occurred through increased equity participation in U.S. manufacturers by foreign firms. For example, in 1981 Daimler-Benz, a German firm, bought Freightliner Corporation, a U.S. manufacturer of heavy (Class 8) trucks. Some years earlier, the company opened a small Mercedes medium-duty truck plant at Hampton Roads, Virginia which now assembles mostly Brazilian-made components. Similarly, Sweden's Volvo purchased White Motor in 1981, while more recently Renault acquired a controlling 40.6 percent interest in Mack Trucks, Inc.

Within the past year, Japanese truck builders also have begun to push for increased U.S. market share. Two companies, Hino and Isuzu (independently and through GM), are currently marketing medium trucks in the United States. At least two other Japanese firms (Nissan Diesel and Mitsubishi) are studying the possibility of entering the U.S. medium truck market over the next few years.

Despite such increased interaction between U.S. and foreign truck builders, actual importation of medium trucks remains comparatively small, accounting for about 7 percent of the total medium-sized units sold in 1983. Virtually all heavy duty trucks, because of their size and less frequent use outside of North America, now are built domestically.

Industry Employment and Labor Relations Trends

U.S. Employment Trends

As a result of the sales recovery, U.S. auto employment increased during 1983 for the first time since 1978. Average U.S. employment for the five largest domestic auto manufacturers during 1983 was 723,000 persons, a 5.5 percent increase over 1982, but 29.9 percent below the historic peak of 1,031,000 workers in 1978. An additional 3,500 workers were employed in car and light truck manufacturing and related activities by Honda and Nissan as of December 31, 1983. Comparable corporate employment data is not available for the first half of 1984. However, other industry employment data series[1/] indicate that average automotive employment rose 8.7 percent from 1982 to 1983 and by 19.7 percent in the first half of 1984 compared with the same period of 1983.

[1/] U.S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings, SIC 371 series, "Motor Vehicles and Equipment".

Table II-6

U.S. Employment for Major Domestic Auto Companies
(average employment per year in thousands of workers)

	GM	Ford	Chrysler	AMC	VW	Total
1978	611	257	132	25	6	1,031
1979	618	239	109	25	9	1,000
1980	517	180	77	21	10	805
1981	522	171	69	21	10	793
1982	441	156	59	20	9	685
1983	463	163	66	24	7	723

Source: Company annual reports for GM, Ford, Chrysler and VW. U.S. Department of Transportation estimates for AMC in 1978-1982 and for VW in 1982. DCC estimates for AMC and VW in 1983.

Industry unemployment trends during the January 1983-June 1984 period reflected the major improvement in auto manufacturers' employment levels. Based on an unpublished data series compiled by the U.S. Department of Labor[2/] --the most comprehensive auto industry unemployment indicator available--the average unemployment rate for workers in motor vehicle and equipment manufacturing dropped from a high of about 20 percent in 1982 to less than 13 percent in 1983. These figures exclude workers who may have taken lower paying jobs in other industries while awaiting possible recall to the auto industry, as well as former auto workers who may have curtailed job searches due to poor economic conditions in their local area. Consequently, these unemployment rates, like the other available unemployment series reported in this section, provide a better indication of general unemployment trends within the industry than of absolute unemployment levels.

2/ U.S. Department of Labor, Bureau of Labor Statistics, unpublished data on unemployment in SIC 371, "Motor Vehicles & Equipment".

Another indicator of industry unemployment--the number of workers on indefinite layoff from jobs with the top five U.S. vehicle manufacturers--confirms the improving unemployment trend. The average number of employees on indefinite layoff (i.e., with no scheduled recall date) declined by more than 20 percent from 238,000 persons in 1982 to 190,000 in 1983. Indefinite layoffs peaked at 269,400 in January 1983, declined to 107,700 at the end of 1983, and then fell further to about 79,000 during the final week of June 1984. Part of the decline in indefinite layoffs during 1983 resulted from a purging of the rolls of 41,000 workers at one company who had lost their seniority-based recall rights. All major U.S. producers now exclude such workers from their indefinite layoff counts.

Growth in auto industry employment was modest during 1983 and the first half of 1984 because of the extensive use of overtime, increased worker productivity as capacity utilization increased, and tight controls on salaried employment levels. The industry relied heavily on overtime scheduling to help boost output, balance inventories and minimize increases in fixed labor costs.

Labor Relations Trends

The United Automobile Workers (U.A.W.) negotiated new three-year labor contracts with General Motors and Ford in September and October 1984. The two agreements are basically similar, except that the Ford contract includes a moratorium on plant closings. Job security benefits were the highlight of the settlements which also included modest wage increases. The centerpiece of the contracts is a program at each company to provide continuation of wages and benefits to workers who otherwise would be laid off due to new technology, negotiated productivity improvements or outsourcing, i.e., buying components from non-union domestic or foreign suppliers. However, the programs do not protect workers from layoff due to sales fluctuations or cyclical downturns. General Motors has committed $1 billion to its job security program and Ford, $280 million. The contracts also include new business venture programs to which General Motors has committed $100 million and Ford, $30 million. The objective of these programs is to launch new business ventures to provide additional job opportunities for UAW members.

The contracts also provide for first-year wage increases averaging 2.25 percent and lump sum payments amounting to 2.25 percent of annual wages for the second and third years. Pensions are increased for both current and future retirees. Profit-sharing and cost-of-living allowances are continued on the same basis as in previous contracts.

The contracts are expected to lead to little if any increase in General Motors' or Ford's total production costs during the next three years. Productivity improvements are likely to offset virtually all of the scheduled increase in hourly labor rates, so that labor costs per unit produced should not rise significantly. Of fundamental importance is that the contracts do not limit the companies in their efforts to restructure to meet international competition. The contracts allow the companies the continued flexibility to reduce work force levels through attrition; to outsource vehicles, parts and components; and to continue their efforts to improve their overall manufacturing efficiency. Thus, both the U.A.W and the companies have achieved important objectives in these agreements. Workers have gained innovative job security benefits, and the companies have preserved their flexibility to restructure operations and to implement the cost reduction and productivity improvement measures necessary to meet international competition.

In an effort to restore parity between GM-Ford and Chrysler workers, the U.A.W. may seek formal renegotiation of its September 1983 contracts with Chrysler Corporation in both the United States and Canada. In July 1984, the Canadian branch of the U.A.W. took a first step in this direction when it called upon Chrysler to accelerate gradual wage and benefit increases scheduled under the present contracts.

Under the terms of its current U.S. contract, Chrysler's labor costs in the United States are likely to increase from about $21 to $26 per hour by October 1985, when the agreement expires. As expected under the new GM and Ford contracts, productivity increases should limit the extent to which this higher average wage rate results in higher unit labor costs at U.S. Chrysler Corporation plants. Key provisions of the Chrysler-U.A.W. contract include:

- an immediate $1 per hour cost-of-living adjustment (COLA) recovery increase and three subsequent COLA recovery increases totaling $1.12 per hour;
- a 3 percent Annual Improvement Factor (AIF) increase beginning in June 1984;
- payment, based on the GM-Ford formula, of all regular quarterly COLA adjustments during the life of the contract;
- restoration of pension and life insurance benefit differentials between Chrysler and GM-Ford workers; and
- elimination of the employee stock option program mandated by the 1979 Chrysler Loan Guarantee Act.

In November 1983, following approval of the new contract, Chrysler experienced a six-day strike at its key Twinsburg, Ohio stamping plant. The principal causes of the strike were local union complaints over sustained overtime use, working conditions and reduced break time at the plant. All of Chrysler's North American assembly plants except the Warren, Michigan truck plant and the Windsor, Ontario compact van facility were temporarily shut down by the Twinsburg work stoppage, which led to an estimated production loss of 28,000 units. Selective work stoppages at key GM plants during the more recent contract negotiations led to an even greater disruption of U.S. production. These two episodes demonstrate the importance of labor relations stability to the industry's continued recovery and the need for further improvements in labor-management cooperation. As U.S. manufacturers move toward fuller implementation of "just-in-time" production and inventory control systems, such cooperation will become even more critical.

Industry Financial Performance

The positive trends described in previous sections combined to produce a dramatic recovery in the financial performance of the U.S. auto industry during 1983 and the first half of 1984. The collective net income of General Motors, Ford, Chrysler and AMC increased to $6.15 billion during 1983, up $5.85 billion from the $0.3 billion in total profit which the industry recorded in 1982. For the first time since 1977, all of the U.S. Big 3 realized full-year net profits. Fourth quarter 1983 earnings were particularly strong--a record $2.2 billion for the industry as a whole--and included a $7.4 million profit for AMC, its first quarterly profit in fourteen quarters.

The improved earnings picture was a direct result of the strong rebound in U.S. passenger car and light truck sales, the Japanese auto export restraint, continued progress in controlling costs and increasing operating efficiencies, and a more profitable vehicle sales mix. These factors pushed the industry's total operating income to $8.0 billion in 1983, a remarkable $7.7 billion improvement over the $0.3 billion operating profit recorded during 1982. The enhanced profitability of GM's, Ford's and Chrysler's finance subsidiaries--together with a significant reduction in net interest expense and the use of tax loss carryforwards and investment tax credits exceeding $1 billion--also contributed to the favorable industry earnings picture. The reduction in net interest expense reflected improved operating strength (and cash flows) which allowed the companies to repay borrowings, thereby reducing total interest on debt. Chrysler's writedown of its investment in Peugeot was the only major offset to these strong financial gains. (See Table II-7).

The industry continued to post large operating and net earnings figures in January-June 1984. Domestic auto manufacturers' combined profits rose to $6.55 billion during the first half of the year, more than double the level reported in the first half of 1983 and $400 million above full-year 1983 industry earnings. Total industry operating income reached a record $7.6 billion during the first half of 1984. Unlike in 1983, the industry recorded net interest income ($289 million), instead of net interest expense. This was accomplished through higher operating profits, which permitted the companies to continue to retire debt and increase holdings of interest-bearing reserves. However, higher volume, dramatic cost cutting, increased productivity and a favorable product sales mix remained the primary factors behind the improved operating performance of the industry's manufacturing operations.

Table II-7

Profit Sources for 1983 and First Half of 1984
(millions of dollars)

	GM		Ford		Chrysler		AMC		Total	
	1983	Jan.-June 1984	1983	Jan.-June 1984	1983	Jan.-June 1984	1983	Jan.-June 1984	1983	Jan.-June 1984
"Operating" Income (Loss)[1]	5,508	3,972	1,804	2,204	899	1,427	(216)	44	7,995	7,647
Net Interest Income (Expense)[2]	(633)	176	2	135	(82)	18	(79)	(40)	(792)	289
Equity in Net Income of Unconsolidated Subsidiaries	983	431	361	226	91	65	11	5	1,446	727
Other Income[3] (Expense)	96	126	0	0	(204)	0	137	1	29	127
Pre-Tax Earnings (Loss)	5,954	4,705	2,167	2,565	704	1,510	(147)	10	8,678	8,790
Income Taxes	2,224	1,482	270	731	3	1	0	0	2,497	2,214
Minority Interest	0	0	29	27	0	0	0	0	29	27
Net Income (Loss)[4]	3,730	3,223	1,867	1,807	701	1,509	(147)	10	6,151	6,549

1/ Operating income (expense) is sales revenue minus: cost of goods sold; selling, general and administrative expenses; depreciation; amortization.

2/ Net interest income (expense) is total interest income minus total interest expense.

3/ Includes tax credit sales and other miscellaneous sources of income or loss, such as the $90 million gain in 1983 on asset sales by AMC and the $224 million writedown in 1983 of Chrysler's investment in Peugeot S.A.

4/ Rounding may cause some net income figures to differ slightly from summations of column amounts.

Source: Company annual and quarterly reports.

[illegible]

In contrast to the experience of the previous four years, the domestic auto companies as a group were able to generate most of the funds to meet their capital needs from internal sources during 1983 and the first half of 1984. Increased funds from operations were sufficient to finance capital spending and to permit retirement of $2.0 billion in net long-term debt in 1983 (see Tables II-8 and II-9). Higher dividend payments to stockholders, including Chrysler's payment of all preferred stock arrearages and the regular fourth quarter 1983 preferred dividend, also were made possible by the near doubling of internally generated funds from 1982 to 1983.

Similarly, U.S. Big Four producers generated $10.4 billion from internal operations in the first half of 1984, enough to offset more than the major funding requirements during the period. For the year as a whole, internally generated funds should be sufficient to cover planned capital expenditures, increased dividend payments, continued debt retirements and other critical uses of industry funds.

Table II-8

GM, Ford, Chrysler and AMC
Major Sources and Uses of Funds from Operations
(billions of dollars)

Sources of Funds:	1979	1980	1981	1982	1983	January-June 1984	Total 1979-83
Net Income (Loss)	$ 3.0	$(4.2)	$(1.3)	$ 0.3	$ 6.2	$6.5	$ 4.0
Depreciation and Amortization	5.2	6.8	7.1	7.2	7.9	$3.9	34.2
Total from Operations	$ 8.3	$ 2.5	$ 5.7	$7.5	$14.1	$10.4	$ 38.1
Uses of Funds:							
Dividends	$ 2.0	$ 1.2	$ 0.9	$ 0.8	$ 1.1	$ 0.9	$ 6.0
Plant and Tooling	9.6	11.5	12.6	9.9	7.7	4.2	51.3
Investment in Unconsolidated Subs	0.5	0.1	0.5	0.7	(0.2)	0.4	1.6
Retirement of Long-Term Debt[1]	0.7	0.5	0.6	2.9	6.9	1.7	11.6
Total Uses	$12.9	$13.2	$14.6	$14.2	$15.5	$7.2	$70.4
Surplus (Deficit) From Operations	$(4.6)	(10.7)	$(8.9)	$(6.7)	$(1.4)	$ 3.2	$(32.3)

---

[1] Long-term debt retirements for 1981 do not include Chrysler's conversion of long-term debt to preferred stock. Numbers may not add due to rounding.

Source: Company annual reports.

Table II-9
GM, Ford, Chrysler & AMC
Financial Adjustments to Cover Shortfalls from Operations
(billions of dollars)

	1979	1980	1981	1982	1983	January-June 1984	Total 1979-83
Operating Funds:							
Excess/(Shortfall)	$(4.6)	$(10.7)	$(8.9)	$(6.7)	$(1.4)	$ 3.2	$(32.3)
Financial Adjustments							
Increase in long-Term Debt	$ 0.5	$ 3.8	$ 2.9	$ 3.6	$ 4.9	$ 0.9	$ 15.7
Increase/(Decrease) in Other Long-Term Liabilities	1.1	0.4	3.0	1.5	0.7	0.3	6.7
Increase in Stock and Capital Surplus	0.3	0.8	1.1	0.4	0.5	0.1	3.1
Decrease/(Increase) in Working Capital	3.1	5.5	2.0	1.4	(5.3)	(3.5)	6.7
Miscellaneous Additions/(Subtractions)	(0.4)	0.2	(0.1)	(0.2)	0.6	(1.0)	0.1
Total Adjustments:	$ 4.6	$10.7	$ 8.9	$ 6.7	$ 1.4	$(3.2)	$ 32.3

Source: Commerce estimates based on company annual reports.

By a huge margin, auto company spending on plants, equipment and special tools was the largest use of industry funds during the 1979-1983 period. From 1979 to 1983, domestic auto producers invested over $51 billion worldwide in these items in order to build more fuel-efficient, higher-quality cars and trucks and to increase productivity (see Table II-10).

Table II-10
Domestic Auto Company Worldwide Capital Investment
(millions of dollars)

	GM	Ford	Chrysler	AMC	Total	Total 1983 dollars
1970	2,283	1,047	416	41	3,787	8,957
1971	1,649	1,039	250	27	2,965	6,673
1972	1,839	1,154	335	31	3,359	5,037
1973	2,104	1,486	628	68	4,286	8,754
1974	2,554	1,451	467	95	4,567	8,566
1975	2,237	956	384	89	3,666	6,303
1976	2,307	1,055	424	52	3,838	6,279
1977	3,647	1,762	723	47	6,179	9,529
1978	4,522	2,542	671	41	7,776	11,182
1979	5,366	3,440	749	62	9,597	12,700
1980	7,761	2,769	835	97	11,462	13,854
1981	9,741	2,227	456	186	12,610	13,928
1982	6,212	2,968	374	335	9,889	10,304
1983	4,007	2,333	1,057	261	7,658	7,658
1983:2	1,961	838*	333	145	3,277	3,277
1984:2	2,534	1,125*	502	63	4,224	N/A

---

* Net additions to property; actual capital expenditure data only available on annual basis.

Note: AMC data before 1979 are for fiscal years ending September 30. Conversion of data to 1983 dollars was based on changes in the implicit GNP deflator.

Source: Company annual and quarterly reports for actual capital spending levels. GNP deflator estimates derived from 1984 Economic Report of the President.

Capital spending by the U.S. Big Four totaled $7.7 billion in 1983, accounting for 5.8 percent of industry net sales. In constant 1983 dollars, total spending on plant and equipment equaled $58.4 billion between 1979 and 1983, nearly 40 percent above the $41.9 billion spent during the previous five-year period. Average U.S. Big Four (nominal) capital spending as a percentage of net sales rose from 5.5 percent in 1974-78 to 8.9 percent in 1979-83 (see Table II-11). Reflecting the cyclical nature of product-related investments, total capital spending by the Big Four producers reached an all-time high of $12.6 billion in 1981 (11.0 percent of net sales) before falling in 1982 and 1983 as several major new product programs were completed. Industry investment in plant and equipment again is expected to increase in 1984, to at least $10 billion, and to total $50 billion or more over the next five years.

Table II-11
Ratio of Worldwide Industry Capital Spending to Net Sales
(billions of dollars)

	Capital Spending	Net Sales	Ratio (%)
1974	4.6	68.0	6.7%
1975	3.7	73.6	5.0
1976	3.8	3.9	4.1
1977	6.2	111.7	5.5
1978	7.8	122.2	6.4
1979	9.6	125.0	7.7
1980	11.5	106.6	10.8
1981	12.6	114.4	11.0
1982	9.9	110.0	9.0
1983	7.7	132.3	5.8
1983:2	3.3	66.0	5.0
1984:2	4.2	83.9	5.0

Source: Company annual and quarterly reports

Because most of this capital spending occurred in the United States, domestic manufacturers achieved a number of specific improvements which resulted in a new mix of domestic products. Among these improvements were:

- an increase in U.S. small car production capacity from 1.4 million units in 1978 to 3.9 million units in 1983;
- improved drivetrains, and an increase in front-wheel drive transaxle production capacity from 1.2 million units (12 percent of total transmission production capacity) in 1978 to 3.6 million units (30 percent of capacity) in 1983; and
- an increase in 4-cylinder engine capacity from 9.5 percent of total engine production capacity in 1978 to 35.4 percent in 1983, and a corresponding reduction in V-8 capacity from 57.4 percent to 30.6 percent during the same period.

The major improvement in the U.S. auto industry's financial performance during 1983 and the first six months of 1984 was a direct result of these product-related accomplishments, increased sales volume, and successful cost control and productivity improvement during the 1979-83 period. Aggressive efforts in the latter two areas were triggered by the need to adjust company cost structures to reflect lower industry sales volumes, to preserve funds for critical ongoing investment programs, and to reduce the large manufacturing cost advantage of Japanese vehicle producers.

To gain better control over spiraling production costs, U.S. vehicle manufacturers closed inefficient plants, reduced hourly and salaried work forces by more than 25 percent, negotiated concessions in labor costs with the United Auto Workers, reduced inventories, obtained price and credit concessions from their suppliers and took other steps to streamline their operations and organizations. As a result of these actions, the industry reduced its break-even level for U.S. production from approximately 11.2 million motor vehicles in 1980 to an estimated 7.9 million units3/ at the end of 1983. Worldwide break-even levels of U.S. auto manufacturers also were reduced significantly during this period.

The reduction in the domestic and worldwide break-even levels of U.S. producers was partly related to an absolute and relative decline in total payroll costs. The recent production upturn, by contributing to higher productivity, also has supported this trend. Table II-12 shows that combined worldwide payroll costs for General Motors, Ford and Chrysler as a percent of sales have decreased

---

3/ Department of Commerce estimates based on company annual reports and public statements. These estimates include profit contributions from parts operations.

steadily since 1980 as a result of labor cost saving measures. Payroll costs per unit peaked in 1981 and have since declined. Between 1978 and 1980, payroll costs per unit grew at an average annual rate of $340. In 1981, this rate of increase slowed dramatically to $142. Payroll costs per unit declined by $117 in 1982 and dropped a further $173 in 1983. Additional improvements in payroll costs per unit are anticipated during 1984.

Table II-12

Worldwide Payroll Cost and Revenues: GM, Ford, and Chrysler Combined

	Unit Sales (thousands)	Sales revenue (millions)	Total payroll (millions)	Payroll per unit	Payroll as a percent of sales
1978	18,156	$119,623	$30,256	$1,666	25.3%
1979	16,599	121,827	31,921	2,023	26.2
1980	12,654	104,040	29,671	2,344	28.5
1981	12,358	110,918	30,720	2,486	27.7
1982	11,693	107,138	27,703	2,369	25.9
1983	14,197	132,277	31,177	2,196	23.6

Source: Company annual reports.

Part of the explanation for recent favorable trends in payroll costs lies in major productivity improvements achieved by the auto companies since 1980. Table II-13 compares domestic production of motor vehicles by the three leading U.S. companies with their U.S. employment for the 1979-83 period. As is typical in a period of declining production, output per employee dropped, from 11.1 units in 1979 to 9.6 units in 1980. However, output per employee increased marginally in 1981 and 1982 even though production continued to fall. With an increase in production in 1983, output per employee jumped to 12.5 units, 13 percent above the 1979 rate. Further increases in vehicle output per worker are likely in 1984 as industry sales volume continues to grow and new efficiency measures are implemented.

Table II-13

U.S. Vehicle Output Per Employee:
GM, Ford and Chrysler Combined
(thousands)

	1979	1980	1981	1982	1983
Motor Vehicle Production	10,751	7,439	7,412	6,602	8,626
Employment	967	774	762	656	692
Vehicles/Employee	11.1	9.6	9.7	10.1	12.5

Source: Company Annual Reports and Motor Vehicle Manufacturers Association.

There is other evidence of the auto producers' cost control success. Table II-14 shows that while unit sales fell by 1 million units from 1980 to 1982, the ratio of revenues to costs rose modestly. With higher sales in 1983, the ratio increased to 1.20 from 1.15 in 1982. At the same time, the domestic auto companies maintained sufficient control over costs to raise the gross margin per unit from $635 to $1,584 during the 1980-83 period, an increase of 150 percent. While gross margin per unit was lower in the first half of 1984 than in 1983 as a whole, it remained well above the 1982 level.

Table II-14

Costs and Revenue:
GM, Ford, and Chrysler Combined

	1980	1981	1982	1983	1984:2
Revenue (millions)	$104,040	$110,918	$107,138	$132,277	$ 81,742
Costs* (millions)	$ 96,696	$ 99,669	$ 93,499	$109,787	$ 70,384
Revenue/costs	1.08	1.11	1.15	1.20	1.16
Unit sales (millions)	12.654	12.358	11.693	14.197	8.681
Revenue/unit	$ 8,173	$ 8,975	$ 9,163	$ 9,317	$ 9,416
Costs/unit	$ 7,538	$ 8,065	$ 7,996	$ 7,733	$ 8,108
Gross margin/unit	$ 635	$ 910	$ 1,167	$ 1,584	$ 1,308

---

* "Costs" includes cost of goods sold and other operating charges such as retirement programs. It excludes selling, general, and administrative expenses; depreciation; net interest expense; and minor sources of income and expense.

Source: Company annual and quarterly reports.

As part of their long-term approach to reducing costs and improving manufacturing operations, U.S. auto makers began in 1982 and 1983 to adopt the "just-in-time" system of production and inventory control used by the Japanese auto manufacturers. Under this concept, vehicle producers seek to minimize parts inventories in the assembly plant by requiring suppliers to deliver top quality parts on a precise schedule. To gain all the economies "just-in-time" can provide, suppliers must fit their production and delivery schedules to their customer's assembly schedule on a daily or even hourly basis. Adjustments in production methods, delivery systems, and in certain plant locations will be required to assure the necessary reliability in material and component supplies. The cost of these changes will be large, but is likely to be justified by the long-term efficiencies derived from the "just-in-time" system.

CHAPTER III: COMPETITIVE STATUS OF THE U.S. AUTO INDUSTRY

As explained in the previous chapter of the report, the U.S. auto industry has made major strides toward improving its financial condition and cost structure, product offerings and quality, and productivity in an effort to compete more effectively with foreign producers. This chapter presents an assessment of the industry's current position with respect to each of these measures of competitiveness, and draws comparisons with Japanese and European producers operating in the U.S. market. The analysis focuses on the large integrated North American market which still accounts for most of the sales and operating profits of U.S. auto companies. The activities of selected U.S., European and Japanese producers in other regional markets are examined primarily in the context of their impact on the North American manufacturers.

Financial Condition of the U.S. Auto Industry

As a result of reduced sales, higher costs and pressures to invest heavily in new plants, equipment and products, the financial condition of U.S. vehicle manufacturers deteriorated sharply from 1979 to 1982. Historically, U.S. auto makers have financed most of their capital requirements through internal sources, but this pattern was broken abruptly in 1979 when industry funds from operations fell $4.6 billion below actual needs. This operating funds shortfall reached record proportions of $10.7 billion in 1980, before improving gradually to a $1.4 billion deficit in 1983 and a $3.2 billion surplus in the first half of 1984 (see Table II-8).

To fund ambitious investment projects during this period, all of the U.S. Big Four producers were forced to take on large amounts of new long-term debt and to cope with unprecedented reductions in working capital and liquidity. The long-term debt of the top four U.S. producers rose from $3.3 billion at the end of 1978 to nearly $9.5 billion at the end of 1982, while industry net working capital fell almost 100 percent from $12.3 to $0.4 billion during the same period. Liquid reserves, defined as the sum of cash and marketable security holdings, also dropped significantly, from $8.5 to $5.6 billion. By late 1982, aggressive cost-cutting measures had halted the severe financial drain of the previous four years, but industry balance sheets remained extremely weak.

Industry profits in 1983 and the first half of 1984, though impressive in nominal dollar terms, were insufficient to restore fully auto company working capital levels and retire the $6.1 billion in new net long-term debt acquired between 1979 and 1982. Nonetheless, U.S. vehicle manufacturers have made major progress within the past two years toward strengthening their balance sheets and generating the funds necessary for ongoing product development and plant modernization programs.

Two clear indicators of this progress are the upward trend in the combined return on sales and return on equity of the U.S. Big Four producers. The industry's return on sales rose from 0.29 to 4.54 percent from 1982 to 1983 and is projected to exceed 6 percent for 1984 as a whole. This is well above the 0.2 percent industry-wide average recorded between 1980 and 1983. Similarly, the U.S. Big Four producers' return on equity increased to 20.58 percent in 1983, and could rise above 25 percent for 1984 as a whole (see Table III-I). The industry's 1983 return on sales and return on equity were roughly the same as in 1977, the industry's previous peak profits year. Interpretation of these favorable results should be tempered, however, by the fact that 1983 and projected 1984 industry earnings have been buoyed by over $1 billion in tax loss carryforwards and investment tax credits.

TABLE III-1

Return on Sales and Equity (GM, Ford, Chrysler and AMC
(for period ended last day of each period)

Period	Net Sales	Stockholders Equity ($m)	Net Income (Loss) ($m)	Return on Sales(%)	Return on Equity (%)
1977	$108,099	$27,470	$5,144	4.76%	18.73%
1978	122,364	30,541	4,950	4.05	16.21
1979	125,019	31,865	3,037	2.43	9.53
1980	105,967	27,484	(4,216)	-3.98	-15.34
1981	113,506	26,189	(1,340)	1.18	- 5.12
1982	110,016	25,581	322	0.29	1.26
1983	135,548	29,883	6,151	4.54	20.58
1984e	160,000	37,000	10,000	6.25	27.00

Source: Company annual and quarterly reports, 1977-1983; 1984 estimates developed by DOC staff based on January-September 1984 company financial results.

As shown by the industry-wide current ratio and long-term debt-to-equity ratio (Table III-2), the large improvements in industry profit margins and cash flow still have not allowed corporate balance sheets to recover completely from the financial strains of the 1979-82 period. The industry-wide current ratio, an indicator of the U.S. Big 4 producers' ability to meet short-term obligations with their most liquid assets, declined markedly between 1978 and 1982. While this ratio increased modestly from 1982 to 1983 as strong industry earnings halted the earlier drain on working capital, it remained well below pre-1980 levels. Total industry working capital (Table III-3) rose further during the first half of 1984, from $5.7 billion at the end of 1983 to $9.5 billion as of June 30, 1984. However, in mid-1984, working capital was still 29.5 percent below the $12.3 billion level of 1978 and 46.3 percent below the inflation-adjusted 1978 level of $17.7 billion (1983 dollars).

TABLE III-2

Ratio Analysis of Industry Financial Condition*

	Current Ratio	Long Term Debt-to-Equity Ratio
1978	1.55	0.11
1979	1.40	0.10
1980	1.18	0.24
1981	1.07	0.34
1982	1.01	0.37
1983	1.19	0.24
1983:2	1.10	0.28
1984:2	1.28	0.17

---

* Includes Chrysler, Ford, General Motors and American Motors.

Source: Company annual and quarterly reports.

TABLE III-3

Trends in Industry Working Capital*
(As of Last Day in Each Period Shown)

Period	General Motors	Ford Motor Company	Chrysler Corporation	American Motors	U.S. Big Four Total
1978	7,948.9	3,092.6	1,076.0	151.9**	12,269.4
1979	6,688.2	2,308.3	(110.9)	317.9	9,203.5
1980	3,148.2	487.0	(168.1)	206.6	3,673.8
1981	1,161.0	236.6	182.3	164.6	1,744.5
1982	1,658.1	(1,625.1)	256.5	73.8	363.3
1983	5,890.8	503.2	(700.1)	6.5	5,700.4
Jan.-June 1983	3,669.1	(540.8)	(376.7)	94.6	2,846.2
Jan.-June 1984	8,020.3	1,448.9	(5.0)	78.9	9,543.1

---

* Millions of dollars
** As of September 30, 1978

Source: Company annual and quarterly reports.

The 1978-83 trend in the industry's long-term debt/equity ratio shows a similar picture. It rose from a low of .10 in 1979 to a high of .37 in 1982 as the industry added over $6 billion in new net long-term debt. While this ratio dropped significantly from 1982 to 1983 as domestic auto manufacturers retired a major portion of the costly debt acquired over the previous three years, it remained two to three times higher than in 1978 and 1979.

U.S. Big Four manufacturers continued to retire long-term debt during the first half of 1984, though at a much slower rate than in 1983. As of June 30, 1984, industry long-term indebtedness as a percentage of stockholders equity still exceeded historical rates by more than a three to two margin. Total industry indebtedness equaled $9.4 billion as of June 30, 1984 (including $3.2 billion of debt due within one year), amounting to 26 percent of total stockholders equity. Debt ratings published by independent rating agencies provide a further indication of the comparative financial condition of U.S. auto producers. For example, Standard and Poors' current ratings on the senior long-term debt of U.S. Big Three producers (AA+ to BB-) remain below their 1978 levels (AAA to BBB).

Improvements in the balance sheets of U.S. auto manufacturers during 1983 and the first half of 1984 reflected the dramatic change which had occurred since 1979 in the industry's cost structure and rate of capacity utilization. As noted earlier, industry break-even levels for U.S. production fell to about 7.9 million units in 1983, down sharply from 11.2 million units in 1980. This trend resulted from major reductions in U.S. vehicle assembly capacity during 1981 and 1982 as well as from more effective controls over a wide range of other fixed and variable production costs.

Capacity utilization at U.S. producers' domestic car and truck plants fell steadily between 1979 and 1982 along with declining sales, despite widespread plant closures. As sales recovered, capacity utilization rates rebounded dramatically from about 56 percent in 1982 to 74 percent in 1983 and to over 80 percent in the first half of 1984.

The rise in overall capacity utilization rates, however, masked significant variation in the amount of excess capacity in U.S. car plants. Factories building intermediate and full-size cars, for example, operated near maximum rates during much of 1983, while U.S. small car plants operated at less than two-thirds of their existing capacity. Several factors--including stability in oil prices, the age of some domestic subcompact model offerings and the attractiveness of small, up-scale Japanese products to U.S. consumers--explained this imbalance in capacity utilization rates.

A slight improvement in this situation occurred during the first half of 1984. A more significant reduction in capacity utilization imbalances between plants is likely during model year 1985 (September 1984-August 1985), once numerous assembly facilities have been retooled to reflect new vehicle introductions and revised product sales mix estimates. Industry break-even levels are expected to rise slightly during 1984 and 1985 due to the net addition of assembly capacity in the United States. Overall capacity utilization rates within the industry should remain fairly stable through 1985 as this capacity expansion largely offsets anticipated output growth.

Comparison of U.S. and Foreign Producers' Competitive Status

U.S. vehicle manufacturers still face a challenging uphill battle in meeting foreign competition despite their unprecedented investments and cost-cutting efforts over the last five years. Japanese producers in particular have not stood still while U.S. companies modernized plants, introduced new products and increased manufacturing efficiency. Worldwide capital spending by Japanese auto makers increased sharply from 1980 to 1981 and has remained more than 50 percent above the average 1978-79 level since that time. Japanese investments, like those of their U.S. counterparts, have paid off in terms of new products and higher vehicle quality. Additional competitive pressures have resulted from swings in exchange rates and the persistent strength of the U.S. dollar against the currencies of other major auto producing nations.

As a result, Japanese auto manufacturers are now positioned to compete against U.S. producers in a wider range of vehicle segments than they were five years ago, and appear to have maintained or increased their previous U.S. landed cost advantage. Moreover, leading Japanese car companies generally have maintained their financial strength despite a leveling off of their sales growth rates due to the recent global recession and limits on their exports.

European producers as a group also face serious challenges in competing against the Japanese in the small car market in the United States and overseas. However, several European firms are positioned to compete very effectively in the United States with both U.S. and Japanese manufacturers in specialized mid-size and luxury markets.

Comparison of U.S. and Foreign Manufacturers' Product Offerings

U.S. vehicle manufacturers made great progress between 1978 and 1982 toward adjusting their product line-ups to match radically changed consumer demand. In 1978, mid-size cars accounted for nearly 50 percent of total U.S. sales, and the profile of U.S. model offerings closely matched consumer demand while the profile of imported model offerings did not. Four years later, after numerous plant closings and product line adjustments, U.S. producers' model offerings again closely matched consumer demand even though small cars (subcompacts and compacts) then accounted for almost half of total U.S. sales. By 1982, however, there were clear signs that Japanese manufacturers were moving toward improving their coverage of the larger vehicle segments of the U.S. market. This trend became even more apparent in 1983, when 27.7 percent of the top four Japanese producers' sales were in the large subcompact and compact segments (about 10 percentage points above their 1980 share in these classes).

While U.S. companies now offer a variety of small car models, they still confront special problems in this market against the Japanese. Despite recent increases in their small car sales and market share, all domestic producers have been reluctant to commit to the internal development and production of new lines of subcompact vehicles over the next several years. Reasons cited for this reluctance include the high cost to research, develop and launch into production an all-new small vehicle (up to $2 billion) in the face of a large Japanese manufacturing cost advantage; the cost effectiveness of entering into joint production arrangements or of obtaining complete vehicles from lower-cost foreign sources of supply; the competitive uncertainties caused by volatile foreign exchange rates; and the risk of large market share gains by highly competitive Japanese producers if the export restraints are lifted in 1985.

General Motor's Saturn Project, Ford's Alpha, and Chrysler's "P" car all indicate that, despite these challenges and market uncertainties, U.S. manufacturers are working to develop small cars which can be manufactured profitably in the United States. Currently, however, they are relying heavily on small car lines that were introduced between 1978 and 1982. GM's J-cars in 1982 and Ford's Escort/Lynx in 1980 were the last high-volume subcompact cars to be developed for production in the United States, and both of these product lines relied extensively on the engineering resources of both companies' overseas affiliates. While AMC's new U.S.-produced Renault Alliance and Encore models and Chrysler's Daytona and Laser models have shown strong sales potential, these automobiles are somewhat lower volume vehicles from the standpoint of the U.S. market.

On the other hand, Japanese producers have totally redesigned or re-engineered most of their basic small car models over the past three years. At the same time, they have introduced new sporty subcompact and compact automobiles despite the limitations on exports and developed additional products in more specialized market segments for possible introduction in the United States in coming years (see Figure III-1).

FIGURE III-1

U.S. MARKET SUBCOMPACT AND COMPACT MODEL INTRODUCTIONS
(BY CALENDAR YEAR)

DOMESTIC MODELS		JAPANESE MODELS		EUROPEAN MODELS	
DATE	NAMEPLATE	DATE	NAMEPLATE	DATE	NAMEPLATE
1975	Chevrolet Chevette (rwd)	1978	Mazda RX-7 (rwd)	1978	VW Rabbit (fwd)
	Pontiac T-1000 (rwd)	1979	Nissan 200 SX (rwd)	1984	VW Golf (fwd)
1978	Ford Mustang II (rwd)*		Honda Prelude (fwd)		
	Mercury Capri (rwd)*		Mazda 626 (rwd)		
	Dodge Omni (fwd)	1980	Mitsubishi Colt(fwd)*		
	Plymouth Horizon (fwd)		Toyota Starlet		
1979	Chevrolet Citation (fwd)		Toyota Tercel (fwd)*		
	Oldsmobile Omega (fwd)		Toyota Cressida (rwd)**		
	Buick Skylark (fwd)		Mazda GLC(fwd)		
	Pontiac Phoenix (fwd)	1981	Toyota Celica/Supra (rwd)**		
1980	Ford Escort (fwd)		Nissan Maxima (rwd)		
	Mercury Lynx (fwd)		Nissan Stanza (fwd)		
	Dodge Aries (fwd)		Honda Accord (fwd)**		
	Plymouth Reliant (fwd)		Isuzu I-Mark (rwd)		
1981	Chevrolet Cavalier (fwd)	1982	Toyota Camary (fwd)		
	Oldsmobile Firenza (fwd)		Nissan Pulsar (fwd)		
	Buick Skyhawk (fwd)		Nissan Sentra (fwd)		
	Pontiac J-2000 (fwd)		Honda Prelude(fwd)**		
1982	AMC/Renault Alliance (fwd)		Mitsubishi Cordia (fwd)		
1983	Ford Tempo (fwd)		Mitsubishi Tredia (fwd)		
	Mercury Topaz (fwd)		Mitsubishi Starion (fwd)		
	Dodge Daytona (fwd)	1983	Mitsubishi Conquest (fwd)		
	Plymouth Laser (fwd)		Toyota Corolla (fwd)*		
	AMC/Renault Encore (fwd)		Honda CRX (fwd)		
1984	Chrysler LeBaron (fwd)		Honda Civic (fwd)		
	Dodge Lancer (fwd)		Mazda 626 (fwd)*		
	Oldsmobile Calais (fwd)		Isuzu Impulse (fwd)		
	Pontiac Grand Am (fwd)	1984	Isusu Spectrum (fwd)		
	Buick Somerset (fwd)		Suzuki Sprint (fwd)		
			Toyota SV-3 (rwd)		
			Nissan Maxima (fwd)*		
			Subaru DL/GL (fwd)*		
			Mitsubishi Galant (fwd)		
			Mitsubishi Mirage (fwd)		
			Nissan 300ZX (rwd)**		

Key:

rwd = rear wheel drive
fwd = front-wheel-drive
* = redesigned model (conversion to fwd, major sheet-metal and/or other major engineering changes)
** = restyled model (changes in trim and/or minor sheet metal changes)
unstarred = totally new vehicle entry

Over the next few years, the Japanese could be moving in two directions within the U.S. car market (see Appendix II). If the unilateral export restraints were lifted in 1985, Japanese producers would be free to bring in new upscale subcompact and compact (and perhaps intermediate-size) vehicles which already have been fully tested in the Japanese market. On the smaller end of the subcompact car market, the Japanese are ready to introduce a new line of low-priced minicars. These vehicles are designed to appeal to first-time new car buyers, commuters and second car buyers. The Japanese would be the only producers of these cars for the U.S. market. Whether or not the current Japanese export restraints are lifted, Japanese auto companies will be in a position to offer a wide range of advanced, upscale models. Taken together, these product plans point to increasingly stiff competition for U.S. producers in the small and mid-size car market during 1985 and beyond.

U.S. producers are better positioned to continue to compete effectively with foreign manufacturers in the intermediate, full-size and luxury car markets than in the subcompact and compact segments. However, foreign competition in these markets also is likely to remain strong. European auto makers, currently the primary foreign competitors in these markets, are expected to continue to direct their product strategies toward building performance-oriented automobiles and luxury sedans for U.S. buyers. European producers thus will continue to put competitive pressure on U.S. specialty mid-size and luxury car lines. New pressure is likely to develop in specialized subcompact and compact markets as well. European strategies in this market appear to be aimed largely at preventing possible future share losses to the lower-priced, option-loaded vehicles in these categories that Japanese producers have begun to offer in the U.S. market. However, they also will have important competitive repercussions for domestic producers.

U.S. manufacturers also are positioned better in the short term to respond to Japanese competition in the truck market than in the small car market, particularly from the standpoint of product lines. Domestic producers continue to dominate the conventional light truck (classes 2-3) and heavy truck (class 8) markets, segments which foreign manufacturers to date have been reluctant or unable to enter on a major scale. U.S. firms currently face much stiffer competition in the compact light truck (class 1) market. While they successfully have substituted domestically built compact pickups for captive imports from Japan over the past two years, and more recently have introduced entirely new compact utility vehicles and vans, the Japanese also have been active in these growing markets. Japanese sales penetration of all compact truck markets has edged upward over the past year, largely as a result of highly competitive pricing and product offerings.

In the much smaller medium truck (classes 4-7) market, domestic producers face more limited, but growing competition from both Japanese (Isuzu, Hino, Mitsubishi, Nissan Diesel) and European (Iveco, Daimler-Benz, Renault, Volvo) producers. Like the vast majority of domestically built units, most foreign medium trucks are sold in cab chassis form. Consequently, imports of this category of truck generally enter the United States as component kits, or as cab chassis without bodies for subsequent completion by domestic body builders. Import penetration of the U.S. medium truck market is expected to accelerate in the mid-1980's as a result of new Japanese export efforts (e.g. Isuzu, Nissan Diesel and Hino) and defensive foreign sourcing actions by U.S. firms (e.g., captive Ford and GM imports from Brazil and Japan, respectively).

Comparison of Domestic and Import Vehicle Quality

Since 1979, when Japanese vehicles gained widespread popularity, U.S. consumers have become concerned increasingly with differences in vehicle quality. Based on J.D. Power and Associates' periodic Automotive Consumer Profile, two key aspects of quality -- dependability and workmanship -- have grown in importance over the past three years and now rank first and third, respectively, among new vehicle buyers (see Table III-4). During this period, fuel economy, which was the single most important vehicle attribute in Power's April 1980 vehicle buyer survey, declined sharply in its importance to buyers and now ranks fourth. At the same time, the importance to consumers of purchase price, which rose sharply between April 1980 and January 1983, has stabilized since the current recovery began. U.S. vehicle manufacturers, like their Japanese counterparts, have recognized these trends and are making quality assurance and "value-for-the-dollar" top priorities in the design and manufacture of their vehicles.

Table III-4

Most Important Attributes In New Vehicle Purchase Decision

	April 1980	September 1981	January 1983	January 1984
Fuel Economy	33%	15%	10%	6%
Dependability	24	30	30	31
Low Purchase Price	11	16	24	24
Safety in Case of Accident	8	10	8	8
Quality of Workmanship	4	6	9	9
Availability of Parts & Service	4	6	3	3
Appearance & styling	3	6	6	6
Other	13	11	10	13
Total	100	100	100	100

Source: J.D. Power and Associates' Automotive Consumer Profile.

Quality Improvements

An integral part of the domestic auto companies' response to the Japanese competitive challenge has been a greater emphasis on product quality. The goal of quality improvement has required that every aspect of motor vehicle production be reexamined. U.S. producers have sought to improve both process and product quality through such means as:

- greater management and worker sensitivity to quality issues;
- growing reliance on computer-aided design and manufacturing (CAD/CAM) technology;
- closer monitoring of parts and materials provided by suppliers; and,
- increased use of statistical process control techniques to monitor product quality throughout the production process.

Direct comparisons of vehicle quality between one manufacturer and another, or between one industry and another (i.e., U.S. versus Japanese), are extremely difficult to make. Vehicle quality can be defined and analyzed in numerous ways. Quality assessments can be based on objective measures, such as the size and frequency of recalls or of warranty and non-warranty repairs within a specified period of time. Alternatively, quality can be measured in terms of consumer perceptions related to a wide range of vehicle attributes. Because of the complexity of the quality issue, automobile manufacturers generally assess their own quality using variations of both approaches.

A review of company statements and vehicle recall announcements suggests that U.S. auto manufacturers are making consistent progress in improving quality. At the same time, however, some public surveys concerning consumer perceptions of vehicle quality indicate that this progress may not be recognized fully in the market. This aspect of the quality issue--the likelihood that consumer recognition of quality improvements will lag behind changes in vehicle quality based on objective measures--may represent the more serious challenge to domestic producers. Thus, long-term efforts by U.S. auto manufacturers probably will be required to close the gap in perceived quality which now seems to exist between domestic and many imported products.

Comparison of U.S. and Foreign Vehicle Manufacturing Costs

The most difficult and critical challenge facing the U.S. auto industry is to narrow the manufacturing cost gap with Japanese producers. Although domestic producers have made impressive progress since 1980 in reducing costs, recent studies suggest that this cost gap has not been reduced and may have increased in the past few years. The Japanese manufacturing cost advantage is a "moving target." As American producers cut their per-unit production costs, Japanese producers also make new progress, and the gap persists or widens. Movements in U.S. dollar/Japanese yen exchange rates have aggravated this situation, by partially or wholly neutralizing the impact of U.S. efficiency improvements on the underlying production cost differential. However, adverse exchange rate movements by themselves do not explain the persistent production cost gap between U.S. and Japanese vehicle manufacturers. Moreover, it is likely that unfavorable exchange rate swings are translated only partially into a larger Japanese production cost advantage, given the fact that certain Japanese costs are denominated in U.S. dollar terms.

Cost differences will be the overwhelming factor in determining the future level of small car production in the United States. This comparison of costs has become even more complex in the last few years, given the wider range of outsourcing options available to U.S. manufacturers. Such options include both the outright purchase of small vehicles and major components from lower-cost producers and joint venture arrangements to share technology, capital and risk.

Despite the record profits earned by the domestic producers in 1983 and the continuation of positive trends in the areas of output per worker, labor costs per unit, inventory management and defect prevention, the cost of producing a small passenger car or compact truck in the United States remains significantly greater than in Japan. U.S. production costs also appear to exceed manufacturing costs in several of the newly developing auto-producing nations, despite the fact that productivity is generally lower in these locations.

Previous studies of the Japanese manufacturing cost advantage have produced a wide range of estimates and explanations of this cost gap. Analysis of this issue has evolved from attributing most of the U.S.-Japan cost disparity to lower Japanese compensation rates, to indicating that several additional factors, including differences in productivity and capital and material costs, contribute to the total cost variance. Conservative estimates (mostly 2 to 3 years old) of the total Japanese cost advantage in small car production fall between $1,200 and $2,000 per unit[1] and result in a Japanese landed cost advantage in the United States of about $800 to $1,500 per unit. A more recent study by Booz-Allen[2] and press accounts of internal studies by U.S. auto companies indicate that the landed cost advantage of Japanese producers may equal $2,000 per unit. While the continued appreciation of the dollar against the yen probably accounts for some of the differences between these two sets of cost estimates, other factors also may be involved.

According to the National Academy of Engineering's 1981 study of this issue, differences in U.S. and Japanese labor unit costs amount to about $1,700 for a subcompact automobile. Labor content in purchased materials and components account for about $800, or 45 to 50 percent of the overall U.S.-Japan auto production cost gap. This figure incorporates differences in hourly wages, white collar salaries and worker productivity in independent component production. The remaining $900 is attributed to higher U.S. hourly and salaried worker costs in vehicle assembly and "captive" supplier plants. Non-labor-related differences in purchased material costs are excluded from these estimates.

---

[1] Joint U.S.-Japan Automobile Study, University of Michigan, Ann Arbor, Michigan, February 1984, pp. 151-52.

[2] Paul A. Bramstad, "The Structural Costs of Complexity in the Automotive Business", Booz-Allen and Hamilton, Inc., paper presented at Fifth World Motor Industry Conference, Geneva, Switzerland, May 24, 1984.

Differences in total U.S. and Japanese unit labor costs are a result of Japanese advantages in both productivity and wage and salary levels. The previous set of cost estimates is based on an estimated 18 percent productivity advantage and a ratio of Japanese to U.S. compensation costs of approximately 0.5 in 1980.

Using more recent data on differences in U.S. and Japanese hourly compensation rates, the Office of Automotive Industry Affairs reexamined the importance of this factor in explaining the total U.S.-Japan manufacturing cost differential. Table III-5 shows the estimated average hourly cost of total production worker compensation in U.S. and Japanese motor vehicle and equipment manufacturing during the 1975-1983 period.

Data in the table, while not fully comparable*, suggest that lower Japanese production worker compensation still accounts for an important share of the U.S.-Japan cost differential. Available evidence indicates that higher white collar compensation and the proportionately larger number of such workers in the United States also continue to be significant factors in the U.S.-Japan difference in total unit labor costs.

After adjusting for exchange rate shifts, estimated Japanese auto production worker compensation as a percentage of U.S. auto production worker compensation remained fairly stable at 54 percent from 1975 to 1979 and then fell to about 46 percent during the 1980-83 period. Assuming an equal labor content of 50 man hours of assembly and captive supplier plant labor per subcompact vehicle in both industries (roughly the Japanese rate), the difference in 1983 U.S.-Japan hourly compensation rates alone would result in a $564 Japanese labor cost advantage on each vehicle built (excluding independent component production). If exchange rate movements since 1978 are excluded from this calculation, this 1983 compensation differential would fall only slightly to about $510 per unit.

---

* Japanese auto industry workers, for example, receive many benefits in kind from their employers, some of which probably are not fully reflected in published compensation comparisons.

TABLE III-5

Hourly Compensation Costs for Production Workers in Motor Vehicle and Equipment Manufacturing

	Total Hourly Compensation in U.S. Dollars[2]		Difference U.S.-Japan Compensation		Total Japanese Compensation/ U.S. Compensation	
	Unadjusted	Adjusted[3]	Unadjusted	Adjusted[3]	Unadjusted	Adjusted[3]
1975						
U.S.	$ 9.44	$ 9.44	+$ 5.88	+$ 4.37	--	--
Japan	3.56	5.07	--	--	.38	.54
1976						
U.S.	10.27	10.27	+ 6.25	+ 4.55	--	--
Japan	4.02	5.72	--	--	.39	.56
1977						
U.S.	11.45	11.45	+ 6.63	+ 5.26	--	--
Japan	4.82	6.19	--	--	.42	.54
1978						
U.S.	12.67	12.67	+ 5.82	+ 5.82	--	--
Japan	6.85	6.85	--	--	.54	.54
1979						
U.S.	13.68	13.68	+ 6.78	+ 6.45	--	--
Japan	6.90	7.23	--	--	.50	.53
1980						
U.S.	16.29	16.29	+ 9.40	+ 8.83	--	--
Japan	6.89	7.46	--	--	.42	.46
1981						
U.S.	17.28	17.28	+ 9.74	+ 9.32	--	--
Japan	7.54	7.96	--	--	.44	.46
1982[1]						
U.S.	18.66	18.66	+ 11.48	+ 10.08	--	--
Japan	7.18	8.58	--	--	.38	.46
1983[1]						
U.S.	19.07	19.07	+ 11.28	+ 10.19	--	--
Japan	7.79	8.88	--	--	.41	.47

Source: U.S. Department of Labor, Office of Productivity and Technology (unpublished data)

[1] 1982 and 1983 data are preliminary and subject to future revision.

[2] Yen/dollar exchange rates used: 1975 - 296.7; 1976 - 296.4; 1977 - 267.8; 1978 - 208.4; 1979 - 218.2; 1980 - 225.7; 1981 - 220.1; 1982 - 249.1; 1983 - 237.6

[3] Adjusted figures based on 1978 average yen/dollar exchange rate of 208.4/$1.00.

MICROFILMED from best copy available

Differences in productivity are another key element underlying the current U.S.-Japan auto production cost gap. Estimates of the disparity between U.S. and Japanese labor productivity in motor vehicle manufacturing vary considerably, according to the period examined and the scope of the industry-to-industry comparison being made. Japanese automobile assemblers are typically less vertically integrated than U.S. manufacturers (although close relationships between Japanese vehicle and parts producers often approximate formal U.S. "captive" supplier plant arrangements), and this greatly complicates any analysis of productivity differences. The issue is further complicated by indications that first-tier suppliers of Japanese vehicle companies may be somewhat more productive than their U.S. counterparts, while second-tier Japanese suppliers are often small firms with comparatively poor productivity levels. However, solid data are not available.

To surmount these problems, most researchers have either adopted a "macro" approach using aggregated industry data or have concentrated on estimating productivity differences in specific vehicle assembly operations, relying on detailed data available from the largest manufacturers. In the latter case, general adjustments typically are made to assembly plant data as a second step, based on a less rigorous analysis of productivity differences within the automotive parts manufacturing sectors of the two countries. Recent analyses of this type have found productivity variances between the U.S. and Japanese industries of 15 to 20 percent.3/ Time series analysis of U.S.-Japan productivity differences during the post-1979 period suggest that this gap ranges from about 10 to 40 percent.4/

Based on the Department's more limited analysis of productivity trends in "captive" (integrated) motor vehicle manufacturing operations in Japan and the United States, U.S. producers made significant progress during the 1980-83 period toward reducing the Japanese industry's productivity advantage. As Table III-6 shows*, annual U.S. vehicle output per worker rose 28 percent from 1980 to 1983, while Japanese vehicle output per worker fell by 16 percent during the same period. The productivity decline in Japan in recent years appears to be largely related to the lower capacity utilization rates which have resulted from slower domestic demand and export sales growth. Consequently, this negative short-term trend could be reversed in the future if Japanese output expands significantly in response to the global economic recovery.

3/ The Competitive Status of the U.S. Auto Industry, National Academy Press, Washington, D.C. 1982, Appendix A.

4/ Joint U.S.-Japan Automobile Study, pp. 162-63.

* Direct comparisons of U.S. and Japanese unit output per worker in captive manufacturing activities are not possible due to extreme differences in the degree of vertical integration between the two auto industries. However, a valid comparison of trends within the two industries can be made.

Table III-6

Annual Vehicle Output Per Worker
United States and Japan

Period	U.S. Ouput Per Worker Index Value (1978=100)	Japanese Output Per Worker Index Value (1978=100)
1978	100	100
1979	96	98
1980	82	107
1981	83	103
1982	87	96
1983	105	92

Source: Annual reports for General Motors, Ford, Chrysler, Toyota and Nissan

The reasons for higher labor productivity levels within the Japanese auto industry are numerous and complex. They include more flexible work rules and greater worker participation in Japanese plants, more efficient manufacturer-supplier coordination, and the lower degree of product line complexity. The positive effects of close manufacturer-supplier relations and cooperative labor-management relations on the productivity of the Japanese auto industry have long been recognized. However, industry analysts only recently have begun to examine systematically the overall cost and productivity implications of growing product complexity.

One recent study of the complexity issue [5/] estimated that the effects of structural product line complexity, excluding vehicle options, account for as much as $800 of the current ($2,500) estimated gross Japanese cost advantage per unit[6/]. A major portion of this $800 cost difference appears to lie in the productivity advantage that results from less complex Japanese

---

[5/] See note 2.

[6/] Based on discussions with several U.S. vehicle manufacturers, the $800 per unit figure probably represents an upper limit on the extent of complexity-related cost differences. Nonetheless, this cost factor seems to play a more important role in the overall Japanese production cost advantage than is generally recognized.

product and manufacturing strategies. According to the Booz-Allen study, rising product line complexity--defined as the number of distinct vehicle platforms, engines and nameplates (each associated with its own trim, seat and equipment options levels)--has been both a cause of and a response to the challenges which U.S. producers continue to face: a maturing of their principal markets, fuel price uncertainties, and Japanese competition. Based on this analysis, the increase in U.S. product line complexity accounts for much of the estimated $2,100 rise in average real vehicle production costs between 1968 and 1982. Therefore, balancing the need for product line complexity to meet specialized consumer demands against the pressure to miminize production costs is a critical on-going strategic objective for full-line U.S. manufacturers seeking to reduce the overall cost advantage of Japanese producers.

Recent evidence suggests that U.S. vehicle manufacturers have begun to address the complexity issue more effectively through improving the focus of their product strategies and the flexibility and integration of their manufacturing systems. In many cases, domestic suppliers are participating actively in this process, which includes efforts to increase component standardization, reduce inventories, rationalize model and option offerings, and invest in flexible manufacturing technologies. According to many industry executives, even modest progress in these areas could result in significant real cost reductions for the U.S. industry as a whole over a period of a few years.

Comparison of U.S. and Foreign Producers' Operating Performance and Financial Condition

This section compares the recent operating performance of leading motor vehicle companies in the United States, Western Europe, and Japan and analyzes their financial condition. Data on General Motors, Ford, and Chrysler were used to profile the U.S. experience over the past six years, while information on Toyota and Nissan was used to profile Japanese companies*. The operating results of the

---

* General conclusions drawn in this section regarding the overall financial strength and operating performance of the two largest Japanese auto companies are believed to apply also to Honda, Mazda, and Mitsubishi, but not necessarily to smaller Japanese vehicle manufacturers. Trends in specific indicators at individual companies (i.e., capital investment and debt as a percentage of long-term capital) may differ from regional industry trends reported in Tables III-7 and III-8.

Volkswagen and Fiat Groups and Regie Nationale des Usines Renault were used to represent Western European firms. These companies were chosen because they are the largest producers within their respective regions, they all produce vehicles that are marketed to a broad cross-section of consumers, their data are reported in a consistent, comparable manner (given the inherent limitations of international comparisons), and each of the companies is, by and large, an integrated auto and truck manufacturer.

The three Western European motor vehicle manufacturers chosen for analysis accounted for 39 percent of the car sales and 36 percent of truck sales in Western Europe in 1982. (Due to the unavailability of complete 1983 data for the Western European producers at the time this report was prepared, 1982 results generally were used to profile Western Europe). In the United States, General Motors, Ford, and Chrysler accounted for 70 percent of passenger car and 79 percent of truck sales in 1983. In Japan, Toyota and Nissan accounted for 66 percent of the car market and 27 percent of the truck market.

Table III-7 presents data on the operating performance of selected U.S., European and Japanese vehicle producers during the 1978-83 period*. This table shows that the operating performance of both U.S. and Japanese manufacturers improved significantly from 1982 to 1983. The worldwide production of U.S. auto makers rebounded sharply in response to the spreading global economic recovery, although employment growth was much more restrained. The reverse was true with regard to Japanese firms, whose employment gain of 7.3 percent from 1982 to 1983 exceeded an output increase of only 3.8 percent. Among European manufacturers, production remained level from 1981 to 1982, while employment fell 9 percent as a result of cost-cutting measures. Based on preliminary data, worldwide output by European producers increased modestly from 1982 to 1983, but was insufficient to warrant widespread rehiring activity.

---

* Because of differences in accounting practices in the United States, Europe and Japan, it is difficult to compare regional industry performances directly. To minimize the effects of differences in reporting systems, an index-based method of analysis was used.

Table III-7

Regional Comparison of Changes in Operating Performance for Selected Vehicle Manufacturers

(Indexed to 1978 = 100)

	1978	1979	1980	1981	1982	1983*
Worldwide Production						
-- U.S. Producers	100	91	69	68	64	80
— European Producers	100	106	111	96	97	*
-- Japanese Producers	100	100	112	109	104	108
Worldwide Employment						
-- U.S. Producers	100	99	84	82	74	77
— European Producers	100	106	106	100	91	*
-- Japanese Producers**	100	101	104	106	109	117
Total Revenues						
-- U.S. Producers	100	104	87	93	90	101
— European Producers	100	117	135	156	168	*
-- Japanese Producers**	100	105	124	134	145	166
Net Income						
-- U.S. Producers	100	61	(82)	(25)	10	129
-- European Producers	100	118	70	(4)	(144)	*
-- Japanese Producers**	100	85	117	111	116	151
Capital Investment						
-- U.S. Producers	100	123	146	160	121	90
— European Producers	100	123	162	178	182	*
-- Japanese Producers**	100	94	103	172	158	162
Long-Term Debt						
-- U.S. Producers	100	95	194	259	270	210
— European Producers	100	100	110	140	156	*
-- Japanese Producers**	100	91	118	103	188	287
Shareholder's Equity						
-- U.S. Producers	100	108	97	92	90	104
— European Producers***	100	144	146	148	151	*
-- Japanese Producers**	100	114	132	149	177	219

---

* Data for European producers not available for 1983.

** Except for Nissan and Toyota, all of the companies compared here have fiscal years that are coincident with calendar years, i.e.,their fiscal years end on December 31. Nissan's fiscal year ends March 31, while Toyota's ends on June 30. The production data are all on a calendar year basis. The differing fiscal year definitions affect the details, not the substance, of the comparisons.

*** The large increase in shareholders equity from 1978 to 1979 occurred partly as a result of the reorganization of Fiat, which led to the consolidation of several independent Fiat Group automotive activities within Fiat Auto Spa.

() Equals negative number.

Source: Company annual reports.

The financial performance of leading U.S. and Japanese manufacturers improved to a greater degree than production from 1982 to 1983. Total revenues of U.S. companies rose by more than 10 percent and profits increased from less than $.5 billion in 1982 to over $6 billion in 1983. The revenue of Japanese manufacturers also increased significantly despite continued restraints on exports and minimal domestic sales growth in Japan. Japanese industry earnings rose by 30 percent from 1982 to 1983, partly as a result of increased export sales of higher margin vehicles. This performance, while overshadowed by the 1983 profit rebound of U.S. producers, capped three years of steady profits growth. Thus, in 1983, the two largest Japanese auto manufacturers' combined net income stood 51 percent above their 1978 earnings, while U.S. company profits were only slightly higher than they were six years earlier. Major European companies, in contrast to their Japanese counterparts, suffered ongoing losses in 1982 despite a large gain in total revenues. As a result of major cost cutting efforts, however, the profitability of most leading European auto makers should improve during the 1983-85 period.

A comparison of U.S., Japanese and European capital spending trends shows a mixed picture. Total spending on plants and equipment by the U.S. companies rose 160 percent from 1978 to 1981, before falling in 1982 and 1983. Capital investment by Japanese vehicle manufacturers rose sharply from 1980 to 1981, fell slightly in 1982 and stabilized in 1983. Japanese investment levels thus have remained fairly constant in absolute terms since 1981. Capital spending by European producers also has risen since 1980 and in 1982 stood 12 percent above the 1980 level. As a group, European producers showed the greatest relative increase in capital spending from 1978 to 1982. Both U.S. and European producers consistently have devoted a higher percentage of their total sales to capital investment than Japanese companies (see Table III-8).

To finance their ambitious investment programs, most leading U.S., European and Japanese producers have assumed a substantially heavier debt load since 1978 (Table III-7). The long-term debt of U.S. manufacturers increased 170 percent between 1978 and 1982 before falling in 1983 to a level about double that of 1978. Full-line European producers increased long-term debt by a more modest 56 percent from 1978 to 1982, reflecting their higher average debt load in 1978. In Japan, Toyota continued its long-term practice of financing operations from earnings and avoiding debt. However, Nissan took on a large amount of new long-term debt from 1978 to 1982 (an 88 percent increase) and then sharply increased its debt further from 1982 to 1983*. This large increase in long-term debt appears to be related directly to the company's ambitious overseas direct investment and worldwide product plans. These plans include new car and truck manufacturing commitments in the United States, Great Britain and Spain.

Reflecting the steady growth in earnings from 1978 through 1983, total shareholders' equity in the largest two Japanese auto companies more than doubled during the period. This growth in shareholders' equity facilitated heavier borrowing by these companies in 1983 and forestalled the serious deterioration in their corporate balance sheets which U.S. producers experienced during the 1979-82 period. Shareholders' equity in the leading European vehicle producers increased sharply from 1978 to 1979, partly as a result of the reorganization of Fiat in 1979, and then rose slowly from 1979 to 1982. Operating funds deficits after 1980 were primarily covered by increases in debt, with new equity financing playing a subordinate role. In contrast to both Japanese and European manufacturers, U.S. auto makers suffered a substantial decline in shareholders' equity between 1979 and 1982 as large operating deficits drained capital from the industry. Record earnings--which contributed to an operating surplus of over $3 billion for U.S. Big Three producers during 1983--reversed the downward trend in shareholders' equity. By year-end, total equity stood 4 percent above its 1978 level.

---

* These figures probably overstate the significance of Nissan's increased debt load, since much of the newly acquired debt is in the form of debentures designed to be converted into common stock.

Table III-8

Regional Comparison of Changes in Financial Performance and Condition for Selected Motor Vehicle Manufacturers

	1978	1979	1980	1981	1982	1983*
Return on Sales						
-- U.S. Producers	4.1%	2.4%	(3.9)%	(1.1)%	0.4%	5.2%
-- European Producers	1.2	1.2	0.6	0.0	(0.9)	*
-- Japanese Producers	4.1	3.3	3.8	3.4	3.2	3.7
Return on Equity						
-- U.S. Producers	17.5%	9.8%	(14.8)%	(4.7)%	1.9%	21.7%
-- European Producers	7.2	5.9	3.4	(0.2)	(6.8)	*
-- Japanese Producers	15.5	11.6	13.8	11.6	10.1	10.6
Capital Investment as a Percent of Sales						
-- U.S. Producers	6.5%	7.7%	10.9%	11.1%	8.8%	5.8%
-- European Producers	7.4	7.8	8.9	8.5	8.1	*
-- Japanese Producers	5.1	4.5	4.2	6.5	5.5	4.9
Long-Term Debt as a Percent of Long-Term Capital						
-- U.S. Producers	10.6%	9.4%	19.2%	25.0%	26.3%	19.3%
-- European Producers**	45.5	36.8	38.7	44.1	46.3	*
-- Japanese Producers	7.0	5.7	6.3	5.0	7.4	9.3

---

* Data for European producers not available for 1983

** See note at bottom of Table III-7

() Equals negative number

Source: Company annual reports.

The financial condition of U.S. auto manufacturers deteriorated seriously from 1978 to 1982, both absolutely and relative to that of Japanese producers, before improving in 1983. As shown in Table III-8, U.S. producers' long-term debt as a percentage of their long-term capital (shareholders' equity plus long-term debt) increased from 10.6 percent in 1978 to 26.3 percent in 1982 before falling to 19.3 percent at the end of 1983. The combined long-term debt of the two largest Japanese auto makers rose much more modestly, and somewhat irregularly, as a percentage of long-term capital during the same period, peaking at 9.3 percent in 1983. European producers, which historically have relied more heavily on long-term debt for financing than have their U.S. or Japanese counterparts, significantly reduced long-term debt as a percentage of long-term capital between 1978 and 1980 before returning to a more typical debt/equity financing mix in the 1981-82 period. As a result of these trends, both U.S. and European vehicle manufacturers remain highly leveraged, and their capacity to assume large amounts of new long-term debt appears to be below that of Japanese producers.

Thus, by the end of 1983, Japanese vehicle manufacturers were roughly as strong financially as they were in 1978 and, in comparison with U.S. and European producers, appeared somewhat better equipped to face future competitive challenges than they had been during the late 1970s. Other factors affecting the U.S. and global vehicle sales environment--including high inflation and debt problems in less developed countries (LDCs) and newly industrialized countries (NICs), protectionist pressures in vehicle producing nations, demographic trends, and persistent currency misalignments--are likely to complicate the efforts of U.S. auto producers to close the serious gaps in manufacturing cost and financial strength that have become apparent since the late 1970s.

CHAPTER IV: PROSPECTS FOR THE U.S. INDUSTRY THROUGH 1990

To this point, the report has reviewed the recent performance of the U.S. motor vehicle industry and assessed the current competitive status of domestic manufacturers in an increasingly global automotive market. Previous chapters have identified the basic challenges facing the industry and analyzed the principal causes of Japanese producers' advantage in terms of products, manufacturing costs, vehicle quality perceptions and financial resources. This chapter looks at the likely size and nature of the domestic and world automotive markets in both 1985 and 1990, and examines the implications of anticipated trends for U.S. vehicle producers and domestic auto industry employment.

Global Factors Affecting the U.S. Auto Industry

A complex array of international economic, political and demographic factors will influence the future evolution of the U.S. auto industry and its competitive prospects. The single most important element affecting the course of industry development is the trend in world, and particularly North American demand for motor vehicles. Steady demand growth, particularly in those industrialized and developing country markets where U.S. manufacturers are already firmly situated, would greatly facilitate the major changes in products, manufacturing techniques and quality control measures which the domestic companies must implement to compete more effectively with Japanese producers. Conversely, slower or more cyclical demand growth could seriously hamper U.S. industry efforts in this direction by reducing the availability of necessary investment funds and increasing international political pressures for counterproductive restrictive trade policies.

The main determinants of worldwide motor vehicle demand are the pace of real economic growth, the extent and quality of highway infrastructure (particularly in developing nations), the price and availability of fuel, and government trade and regulatory policies. In the near term, uncertain growth prospects and the balance of payments strains associated with the international debt problem will tend to limit motor vehicle demand, and especially import demand, in both less developed and newly industrialized countries. Economic austerity in these countries also will reduce prospects for implementation of ambitious plans to improve transportation infrastructure, thereby slowing the future spread of automotive demand. At the same time, gasoline prices, while currently falling or stabilizing worldwide, will present continued uncertainties to both industry product planners and government economic policy-makers.

Government trade and regulatory policies also are key forces affecting motor vehicle demand and regional evolution of the industry. For example, restrictive automotive trade policies now are being used in many nations to promote exports, limit imports (especially of Japanese vehicles) and/or shift the burden of industry adjustment to other countries. The existence of such restrictive policies in other countries has the potential to channel higher levels of imports to the U.S. market, as well as to limit overseas sales opportunities for U.S. producers.

Government regulatory policies, though necessary to support automotive safety, environmental and other critical national goals, also tend to reduce demand by raising the cost of a motor vehicle. Over the short term, government regulatory policies affecting the motor vehicle industry are likely to exert modest downward pressure on demand growth in all major producing regions (e.g,, North America, Europe and Japan). However, in most industrialized countries, regulatory policies are expected to have less of a negative impact on vehicle sales during the balance of the 1980's than they had in the late 1970's.

Exchange rate movements, which can have a major impact on the effectiveness of government trade policies, also affect the scale and composition of automotive demand and the competitiveness of domestic producers. The recent strength of the U.S. dollar, by exerting downward pressure on U.S. inflation, has contributed to the present recovery in total domestic vehicle sales. However, at the same time, the dollar's strength has encouraged U.S. import demand, discouraged exports and increased the effective landed cost advantage of Japanese vehicle producers.

World Motor Vehicle Demand Estimates

World motor vehicle demand peaked in 1978, fell sharply from 1979 to 1982 and then recovered partially in 1983. Table IV-1 presents historical data on new car and truck sales in 1978 and 1982 and estimates of world vehicle sales by region in 1985 and 1990.

Economic forecasters generally have raised their 1985 world vehicle sales projections within the past two years, based on a more favorable outlook for both energy prices and real economic growth. In most instances, however, only minor revisions have been made to 1990 sales forecasts due to the risks of longer-term volatility in fuel prices and continued uncertainties about the future competitive environment within the industry. In those long-term forecasts reviewed as part of the study, variations among demand projections for some regions range up to 300 percent. In general, this variation is greater for truck than car forecasts, and for "rest-of-world" demand projections than for those covering regions that are heavily industrialized.

Table IV-1

World Car and Truck Sales and Sales Forecasts

New Car Sales/Registrations
(millions of units)

	1978	1982**	1985e	1990e
North America	12.3	8.7	12.0	12.6
Western Europe	10.3	10.0	10.9	11.6
Japan	2.9	3.0	3.3	3.6
Rest of World	5.7	6.0	6.5	8.4
Total	31.2	27.7	32.7	36.2

New Truck Sales/Registrations
(millions of units)

	1978	1982**	1985e	1990e
North America	4.4	2.8	4.3	
Western Europe	1.2	1.3	1.4	9.2*
Japan	1.8	2.2	2.3	
Rest of World	3.1	3.0	4.0	5.0
Total	10.5	9.3	12.0	14.2
Total Cars and Trucks	41.7	37.0	44.7	50.4

---

* Combined estimate for North America, Western Europe and Japan.

** Actual data for North America, Western Europe and Japan; DOC estimates for rest of world based on various sources.

Sources: 1978 and 1982 sales data: Wards Automotive Reports, 1983 MVMA World Data Book and DRI, World Automotive Forecast Report, May 1984.

1985 car and truck sales forecasts: DRI, World Automotive Forecast Report, May 1984; North American figure adjusted to reflect the Department of Commerce's forecast.

1990 car sales forecast: Commerce Department estimates based on 1983 sales data by region where available and various independent forecasts.

1990 truck sales forecast: The Future of the Automobile, The MIT Press, 1984.

On the basis of current trends in key variables of income, energy prices, interest rates and other relevant factors, the Department of Commerce estimates 1985 world passenger car and truck demand at about 32.7 million units and 12.0 million units, respectively, for a total of 44.7 million units.

This demand projection, when compared with world production capacity projections, indicates a continuing worldwide excess capacity problem, although one of much lesser magnitude than in the recession years of 1980-82. While excess capacity totaled about 13-14 million units in 1982, Department of Commerce projections indicate potential world excess capacity of about 8 million units in 1985. This implies a world capacity utilization rate of about 80 to 85 percent on a straight-time (regular hour) basis.

In comparison with recent years, the distribution of world excess vehicle production capacity has become more evenly balanced among regions. While a major portion of world excess capacity will continue to be located in North America and Europe, Japanese producers now also confront an excess capacity situation. Japanese excess capacity appears to be largely the result of depressed home market sales and lower export volume rather than of a major capacity expansion.

Over the next several years, 2 million units or more of car and truck assembly capacity will be added in the United States and Canada by domestic and foreign companies as about ten new, expanded or reopened plants begin operations. Unless motor vehicle demand increases significantly above the Department's 1985 and 1990 demand forecasts, or vehicle manufacturers are more conservative than expected in increasing production capacity, the world auto industry will be confronted with at least a modest excess capacity problem through much of the decade. Small car production capacity utilization in the United States in particular could be affected by this situation, given the large number of advanced foreign products which are available for sale in this market. Preliminary estimates of worldwide demand at the end of the decade show only a modest rise in total vehicle sales above forecasted 1985 levels, and many industry analysts anticipate only a gradual increase in the small car share of the key North American market through 1990.

Domestic Factors Affecting the U.S. Auto Industry

Macroeconomic Influences

The most important factor influencing U.S. automobile demand through 1985 is the state of the national economy. Economic influences such as the rate of growth of GNP, interest rates, the inflation rate, and the unemployment rate will have significant implications for the magnitude of auto sales in 1985. Administration forecasts of these variables indicate real growth in GNP of about 4 percent in 1985, along with continuation of low inflation rates and decreasing interest and unemployment rates. These factors, combined with the influence of demographic variables, indicate demand growth for autos should be significant in 1985, although the peak sales record of 15.0 million cars and light trucks (1978) probably will not be duplicated. Nevertheless, U.S vehicle sales should increase more than 20 percent between 1983 and 1985. This growth will be the greatest of any auto-producing region in the world. But, after 1985, long-term growth prospects are modest--just as for the rest of the world.

Fuel Prices

Gasoline prices and availability will continue to affect both the volume of new car sales and the mix of car sizes in the future. Estimates of motor vehicle demand in this report are based upon stable real gasoline prices and ready availability through at least 1985. In both 1973-74 and 1979-80, when gasoline prices rose rapidly, total auto sales dropped sharply and the mix shifted dramatically in favor of smaller, more fuel-efficient autos. Any increase in real gasoline prices may, therefore, exert a dampening effect on the magnitude of estimated auto sales in 1985 and future years and increase demand for subcompact and compact vehicles. In contrast, if real gasoline prices continue their recent decline, both aggregate vehicle demand and demand for relatively larger vehicles will be enhanced.

Factors Influencing Vehicle Replacement Frequency

Although highly important, the effects of GNP growth and fuel price behavior on auto demand in 1985 will not be as dramatic as in previous years. Other factors at work during the year will tend to have a slight dampening effect on aggregate vehicle sales and could have a significant impact on the composition of these sales. For example, consumers have been keeping their cars longer than in the past, resulting in relatively steady growth in the average age of passenger cars.

As Table IV-2 shows, there was a slow but steady growth in the average age of passenger cars between 1969 and 1983. Each of the last four recessions accelerated this process, but the trend did not reverse when the recessions ended. The greatest growth over a five-year period was between 1979 and 1983, when the average car on U.S. roads aged by one full year.

Table IV-2

Average Age of Passenger Cars In Use in the United States

Year	Years Old
1968	5.6
1969	5.5
1970	5.6
1971	5.7
1972	5.7
1973	5.7
1974	5.7
1975	6.0
1976	6.2
1977	6.2
1978	6.3
1979	6.4
1980	6.6
1981	6.9
1982	7.2
1983	7.4

Source: Motor Vehicle Manufacturers Association

One reason for the aging of the U.S. car fleet has been that consumers have spent less of their transportation dollar on new automobiles. Although the consumer has allocated a relatively stable share of personal consumption expenditures to the costs of owning and operating automobiles, as shown in Table IV-3, the proportion of these expenditures going to the purchase of new autos has declined from over 4 percent in the early 1970's to a low of 2.7 percent in 1982. Due to the higher costs of operating and maintaining an automobile (particularly oil and gasoline costs), consumers have had less income available for new automobiles, whose purchase frequently can be postponed. While the share of personal consumption expenditures allocated to the purchase of new automobiles may rise slightly in 1984 and 1985 as it did in 1983, the average age of passenger cars on U.S. roads is likely to decline only slightly during this period. Improvements in vehicle durability and continued low levels of average passenger car use relative to the pre-1979 period will contribute to this trend, suppressing potential replacement demand.

Table IV-3
Yearly Expenditures on Personal Transportation as a Percent of Personal Consumption Expenditures

	New Autos	Gasoline and oil	Other	Total
1971	4.2	3.6	5.2	13.0%
1972	4.3	3.4	5.6	13.3
1973	4.2	3.5	5.4	13.1
1974	3.1	4.1	5.1	12.3
1975	3.0	4.1	5.2	12.3
1976	3.5	4.1	5.7	13.3
1977	3.7	4.0	6.2	13.9
1978	3.6	3.8	6.3	13.7
1979	3.3	4.4	5.8	13.5
1980	2.8	5.1	5.2	13.1
1981	2.7	5.1	5.2	13.0
1982	2.7	4.6	5.2	12.5
1983	3.0	4.2	5.5	12.7

Source: Bureau of Economic Analysis, U.S. Department of Commerce

As automobiles have become more expensive to operate, they also have been perceived as less affordable in recent years. Table IV-4 compares the average U.S. expenditure on a new car and the estimated average price of a "constant" 1967 car (including safety and emissions equipment) with annual family median income. Big jumps in the average transaction price (purchase price) of a new car occurred in 1981 and 1982, contributing to "sticker shock" among some new car buyers. However, the affordability of new automobiles to the U.S. consumer actually has changed very little since 1980, if the comparison is made in terms of a constant-quality car. Additional support for this conclusion comes from the fact that the negative impact of high sticker prices and interest rates largely has been offset by longer new car loan terms. For example, between 1978 and 1983, the average maturity of U.S. new car loans made by finance companies rose from 42.9 to 45.9 months.[1] Average monthly new car loan payments increased from \$164 to \$242 in nominal terms during this period, but only from \$120 to \$136 in real terms.[2] Thus, new car and light truck demand growth should not be inhibited seriously by the affordability issue.

---

[1] Board of Governors of the Federal Reserve System and Motor Vehicle Manufacturers Association, Third Quarter 1984 Economic Indicators, p. 31.

[2] Average monthly loan rates deflated using implicit GNP deflator for personal consumption expenditures (durable goods). See 1984 Economic Report of the President, Table B-3, p. 224

Table IV-4

New Car Prices and Average Consumer Expenditures For New Automobiles

	Average Consumer Expenditure Per New Car	Estimated Average New Car Price (1967 Constant Car)*	Annual Median Family Income	Weeks of Income to Equal: Average Per Car Expenditure	Weeks of Income to Equal: Average Price of 1967 Constant Car
1967	$3,212	$3,222	$7,933	21.1	21.1
1968	3,406	3,374	8,632	20.5	20.3
1969	3,557	3,458	9,433	19.6	19.1
1970	3,542	3,597	9,867	18.7	19.0
1971	3,742	3,773	10,285	18.9	19.1
1972	3,879	3,782	11,126	18.1	17.7
1973	4,051	3,897	12,051	17.5	16.8
1974	4,439	4,230	12,902	17.9	17.1
1975	4,948	4,677	13,719	18.8	17.7
1976	5,414	4,979	14,958	18.8	17.3
1977	5,811	5,264	16,009	18.9	17.1
1978	6,382	5,675	17,640	18.8	16.7
1979	6,861	6,153	19,661	18.1	16.3
1980	7,591	6,771	21,023	18.6	16.7
1981	8,922	7,603	22,388	20.7	17.7
1982	9,824	7,978	23,433	21.8	17.7
1983	10,586	8,279	24,635	22.3	17.5

---

* Includes mandated safety and emissions control equipment.

Source: Motor Vehicle Manufacturer Association, Second Quarter 1984 Economic Indicators: The Motor Vehicle's Role in the U.S. Economy, August 1984. Data compiled from U.S. Department of Commerce publications on "Average Transaction Price Per New Car" and "Median Family Income", and from U.S. Department of Labor, Bureau of Labor Statistics, "New Car Consumer Price Index - All Urban Consumers."

Demographic Factors

Demographic trends are also important as an influence on long-term vehicle demand and on sales mix by market segment. In the short term, key demographic variables such as the age distribution of the population, income distribution, and household size should combine to support overall market growth. In the longer term, these same factors are likely to contribute to a gradual increase in the small car market share. Recent consumer survey data [3/] support these general conclusions, in addition to providing more detailed information about consumer buying preferences and vehicle replacement plans.

Throughout the 1980's, growth in aggregate demand for motor vehicles in the United States should be bolstered by the steady increase in the size of the primary new car buying population (ages 25 to 44). In the near term, mid-size and large-size car sales will continue to be encouraged by stable or declining real gasoline prices. However, longer-term demographic trends, including the continued entry of women into the workforce and the reduction in average household size, are likely to shift the overall vehicle sales mix toward smaller and more upscale specialty vehicles. The gradual aging of the total U.S. driving population may partially offset the influence of these demographic factors in support of higher small and speciality car sales, but is unlikely to alter this long-term trend.

Other important demographic patterns influencing the composition of U.S. long-term auto demand include: the importance of young buyers (ages 18 to 34) to the domestic subcompact market (accounting for 50 percent of total domestic subcompact sales in one major survey)[4/]; the significantly lower average age of import car buyers (35 years old) compared to domestic car buyers (48 years old); and the tendency of recent import buyers to express stronger feelings of brand loyalty and product satisfaction than recent domestic car buyers. Although the impact of these variables on new vehicle demand will be mixed, demographic trends as a whole undoubtedly will encourage a further intensification of competition between import and domestic makes in virtually all market segments.

[3/] See for example Newsweek, Inc., 1983 Buyers of New Domestic Cars, and 1983 Buyers of New Imported Cars; J.D. Power and Associates, Power Newsletter (various issues) and tri-annual Automotive Consumer Profile.

[4/] See Newsweek surveys cited in previous note.

Foreign Producer Plants in the United States

A relatively new factor influencing the U.S. car and truck market is the growth of automobile and truck production in the United States by subsidiaries of foreign manufacturers. The establishment of such manufacturing operations in this country began with Volkswagen of America in 1978 and has accelerated since late 1982, when Honda established a car assembly facility in Ohio (Honda of America Manufacturing, Inc.). Honda is now in the process of doubling its U.S. car assembly capacity, which should come on stream in late 1985. Since last year, Nissan has initiated production of compact pickup trucks in Tennessee (Nissan Motor Manufacturing Corporation U.S.A.) and has announced plans to begin car assembly operations at its U.S. facility in April 1985. In addition, Toyota recently has formed a joint venture company with General Motors (New United Motor Manufacturing, Inc.-NUMMI) and expects to begin car production in California by the end of 1984.

In 1983, Honda and Nissan assembled 55,325 cars and 19,979 compact trucks, respectively, in the United States, while Volkswagen produced nearly 100,000 cars and 2,000 compact trucks. During 1984, the output of each of these plants has risen substantially as full production rates have been achieved at Honda's and Nissan's U.S. facilities, and as the economic recovery has supported a higher level of capacity utilization at the Volkswagen plant in Pennsylvania.

By the end of the 1985 calendar year, Honda plans to have the capacity to produce 300,000 Accords and Civics annually; Nissan will be producing 120,000 compact pickup trucks, and will have installed the capacity to build 100,000 small cars; and GM and Toyota will be building Japanese-designed small cars at roughly a 200,000 unit per year rate. Actual 1985 production, however, will be well below rated capacity, since most of these operations will be in their early stages.

Beyond 1985, there is considerable speculation about the vehicle production and sourcing plans of U.S., Japanese and other Asian motor vehicle producers. Mazda has been very active with Ford in sharing small car technology and component sourcing for Ford's new small car to be built in Mexico. In addition, in November 1984, Mazda announced that it would begin assembling cars in 1987 near Detroit, Michigan. Mitsubishi also could begin building cars in the United States, either independently or through a joint production agreement with Chrysler. In addition, the GM-Toyota joint production agreement provides that NUMMI may construct a second assembly line in the Fremont, California joint venture facility for the production of Toyota cars. Assuming all of these potential investments occur, Japanese producers could have the capacity to assemble just over 1 million cars and 140,000 light trucks in the United States by the end of the decade (see Table IV-5).

Table IV-5

Potential U.S.-Based Japanese and Joint U.S.-Japanese Production in the United States

	1985	1990
Honda	150,000 cars	300,000 cars
Nissan	120,000 trucks 25,000 cars	140,000 trucks 100,000 cars
GM/Toyota (NUMMI)	100,000 cars	250,000 cars
Mazda	-	240,000 cars
Mitsubishi*	-	150,000 cars
Total	395,000 vehicles	1,180,000 vehicles
o cars	275,000	1,040,000
o trucks	120,000	140,000

---

* Speculative at this stage.

Source: Company announcements and Department of Commerce estimates.

Increased small car production by U.S. subsidiaries of Japanese companies is likely to have a significant impact on the small car manufacturing and marketing activities of traditional domestic producers. While hard data are not available concerning the cost structure of the Honda and Nissan plants in the United States, some industry observers[5/] estimate that total manufacturing costs at these facilities fall mid way between those of traditional producers in the United States and Japan. Thus, U.S. manufacturing subsidiaries of Japanese vehicle manufacturers are likely to offer formidable competition to the U.S. Big Four in both the small car and compact truck markets.

U.S. Vehicle Sales Outlook, 1985 and 1990

Assuming reasonable stability in long-term GNP growth, wages and prices, the Department of Commerce projects that total sales of cars and light trucks in the United States could rise to 14.8 million units in 1985 and 15.8 million units by 1990. These projections represent a 22.1 percent increase in 1985 and a 30.4 percent increase in 1990 over 1983's sales figure. The 1985 projection of car and light truck sales is 250,000 units below 1978's level, while the 1990 projection is 750,000 units above the 1978 level. These figures indicate that growth in the U.S. market beyond 1985 will be a very modest 1 to 2 percent annually. The most significant long-term changes in U.S. market demand are likely to result from shifts in vehicle sales mix, including a gradual rise in the share held by small cars and compact trucks, and from the growing reliance on foreign-built or designed vehicles.

U.S. Car Market

Based on the macroeconomic assumptions outlined previously, the Department of Commerce anticipates that total U.S. new passenger car sales will grow from an estimated 10.5 million units in 1984 to 11.0 million units in 1985. This represents an annual growth rate of slightly less than 5 percent. By 1990, U.S. new car sales could grow to as much as 11.8 million units, an increase of about 1.3 million units over the projected 1984 level and 500,000 units above 1978 car sales.

[5/] Lance Baley, "U.S.-Built Hondas, Nissans Retain Cost Edge," Automotive Industries, September 1984.

Two key factors affecting the composition of U.S. car sales in 1985 and subsequent years will be the openness of the U.S. market to foreign countries' automobile exports, and the extent to which Japanese car manufacturers invest in the United States. Through at least March 31, 1985, the Japanese Government will continue to restrain exports of automobiles to the United States, effectively limiting the short-term ability of Japanese firms to increase share in their largest export market. At the same time, a growing number of Japanese auto producers have established vehicle manufacturing subsidiaries in the United States or are considering this option.

Because of the uncertainty surrounding the status of the Japanese export restraint in 1985 and beyond, it is extremely difficult to project the future level of Japanese car sales or total automobile imports into the U.S. market. Given this uncertainty, the Department developed a range of sales scenarios to examine the short-term implications for U.S. producers of various degrees of import penetration and Japanese investment in the United States. Throughout this analysis, it was assumed that small (defined as subcompact for the purposes of this section), mid-size (compact, intermediate and foreign luxury) and large (North American-built full-sized and luxury) cars would account for appoximately the same share of the 1985 market as is projected for 1984 (45, 38, and 17 percent, respectively). No attempt was made to forecast the division of the U.S. market in 1990 in terms of vehicle size or vehicle source, although virtually any sales outlook for that year would project both a higher small car and Japanese sales share of the market.

One possible 1985 market outlook, based on the assumption that Japanese automobile exports (including the so called "car-derived vans") would be restrained at the April 1984-March 1985 level for an additional year, implies a slight decline in Japanese import share to about 17 percent. Given current U.S. production plans of Japanese manufacturers, however, the total U.S. sales share of Japanese-designed automobiles (imports and domestically produced) probably would exceed 20 percent. This would result in a slight deterioration in the collective sales share of traditional U.S. producers from the estimated full-year 1984 level, even though their unit sales of North American-built cars would increase.

Under a second possible scenario, U.S., European and Japanese car makers would gain from the forecasted 500,000 unit sales increase from 1984 to 1985 in rough proportion to their 1984 sales levels. North American-built cars, including those produced by non-traditional manufacturers, would retain about 77 percent of the U.S. market, with imports from all sources capturing the balance of the U.S. new car market. This kind of sales result could occur in either a restrained or unrestrained market, but would be more likely to occur if some form of Japanese export restraint were in effect.

Assuming the Japanese auto export restraint is lifted entirely after March 31, 1985, a wide range of possible sales projections emerge in which Japanese car manufacturers benefit disproportionately from anticipated total U.S. market growth. This set of projections ranges from very pessimistic ones in which imported Japanese automobiles quickly gain 30 percent or more of the U.S. market, to more conservative estimates that Japanese producers would capture about 20 to 25 percent of an expanded 1985 market. In the absence of Japanese auto export restraints, continuation of the present strong dollar/weak yen exchange rate relationship would increase the potential for significant Japanese price cutting and major U.S. market share gains. However, given the current large underlying manufacturing cost advantage of Japanese car manufacturers, an exchange rate advantage would not be a necessary precondition for aggressive Japanese pricing behavior in an unrestrained U.S. market environment.

Under most of these sales outlooks, Japanese producers and their U.S. manufacturing subsidiaries could be expected to increase their share of the U.S. small car market and to make continued, but more modest, inroads into the mid-size segment. This trend, if it gains momentum, could impair U.S. manufacturers' ability to meet federally mandated CAFE requirements, in addition to presenting more basic challenges to their North American production and marketing efforts.

U.S. Truck Market

Due to the anticipated continued popularity of compact vans, pickups and utility trucks, the Department forecasts total sales of 3.8 million and 4.0 million light trucks in 1985 and in 1990, respectively. By comparison, sales of light trucks stood at 2.9 million in 1983 and at 3.7 million in 1978. Compact trucks, utility vehicles and commercial vans should account for almost 43 percent of the market in 1985, and for about 50 percent of all light truck sales by 1990, assuming reasonable fuel-price stability and adequate production capacity.

Within the 1985 light truck market, the Department anticipates a Japanese import penetration level of about 13.0 percent, or 494,000 units, in 1985. Due to the extremely competitive situation prevailing in the compact truck market, no attempt was made to predict Japanese import share in 1990. The decline in the 1985 U.S. light truck import share of Japanese companies is directly attributable to the anticipated continued success of domestic producers' compact vehicles and to Nissan's increased production of pickups in the United States. Despite the decline in Japanese light truck import share, the total sales share captured by Japanese-designed light trucks could rise slightly during 1985 if sales of U.S.-built Nissan pickup trucks remain strong.

In 1985, North American-based compact pickup and utility truck capacity will exceed 1.2 million units. When Chrysler proceeds with its plans to introduce a new line of compact trucks, an additional 200,000 units of compact pickup and utility trucks could be produced by 1986. This would bring total compact truck capacity in the United States to 1.4 million units. Capacity utilization rates at U.S. light truck assembly facilities are expected to rise above 90 percent in 1985 based on the strength of U.S. compact truck and van model offerings.

Future Product Plans of U.S. Manufacturers

As the Department's forecasts indicate, traditional U.S. auto manufacturers face increasingly stiff competition from foreign producers during the rest of this decade, especially in the small car market. To meet this challenge, U.S. Big Three producers in particular have been developing ambitious long-term product strategies. In general, these strategies include introductions of numerous advanced, U.S.-built models targeted at markets where each manufacturer has demonstrated competitive strengths, as well as expanded foreign sourcing of models to shore up specific weaknesses in each producer's overall product line.

To date, General Motors has been the most active domestic company in developing new sourcing arrangements for small cars, while attempting to develop a new small car and an accompanying manufacturing system (Saturn Project). Ford's and Chrysler's new small car product strategies, like AMC's plans to expand its market coverage to include intermediate-size cars, should become developed more fully during 1985. The balance of this section outlines the specific product plans of General Motors, Ford, Chrysler and AMC based on recent public announcements by these companies.

General Motors

General Motors' aging Chevette/T-1000 product line is scheduled to be discontinued in the summer of 1986, leaving only the J-cars (Cavalier, J-2000, Firenza, Skyhawk) as GM's domestically produced standard, small car line. However, GM has announced plans to purchase up to 650,000 small cars through its joint production agreement with Toyota and new sourcing arrangements with Isuzu and Suzuki in Japan and with Daewoo in South Korea. As a result, over 40 percent of GM's future supply of small cars may be acquired from overseas sources or in cooperation with Japanese producers.

At the same time, GM has announced the Saturn Project. The goal of the project is to redesign production techniques to enable General Motors to build small cars profitably in the United States that surpass the competition in terms of price and quality. The Saturn Project, if fully developed, will represent more than a $1 billion investment by GM and require revolutionary levels of auto company and union cooperation. The project is an attempt to redesign the entire automotive manufacturing system. It is the first system which will integrate fully design, engineering, manufacturing, assembly, material handling and human relations activities from the inception of product development. As an example of the new production techniques being considered, the Saturn project will use a modular assembly concept where portions of the car are built as stand-alone modules and pre-tested before installation on the chassis.

If this effort proves successful, General Motors can be expected subsequently to apply Saturn program labor relations and production concepts in the construction of other GM vehicles. Most importantly, the success of this project could lead GM to commit substantial resources by the end of the decade to building replacements for many of the small car models it plans to import beginning in 1985. General Motors' recent diversification moves--including the establishment of several joint ventures to produce industrial robots and machine vision systems and the acquisition of EDS, a leading computer services firm--should greatly assist its effort to streamline vehicle production and reduce costs.

In addition to its small car marketing plans, GM has scheduled the introduction of several new front-wheel drive compact and mid-size automobiles. GM also is planning to introduce all new or redesigned versions of its current large car product line over the next two years. Two brand new facilities producing full-size and luxury market vehicles were opened in 1984 and one more will be opened in 1985. These plants will have a total capacity of 900,000 units. Most of GM's rear wheel drive B-bodies (Parisienne, Delta 88, LeSabre) are being replaced in 1985* by an all new H-body (GM-70) car line to be built at Buick City in Flint, Michigan. When these projects are completed, GM will have the capacity for almost 1.5 million units of newly re-engineered and redesigned large cars in addition to its 2.5 million unit capacity of newly introduced front-wheel drive vehicles in the mid-size car market. As a result, GM should contine to hold a dominant position in the mid-size and large car markets throughout the 1980's.

---

* Caprice and wagon models within the B-body line will be retained through the 1987 model year.

Ford Motor Company

Unlike GM, Ford's small car production strategy is not fully settled. The recently announced "Alpha" project, to design a new small car from the ground up, remains in a preliminary development stage. Current plans call for a Mustang/Capri replacement in 1987, and for a partial redesign of the company's successful Escort line at about the same time. Ford has recently announced plans to construct a new, 130,000 unit assembly plant in Mexico to build a Mazda-designed subcompact car. About 60,000 of these cars are expected to be exported to the United States. Additional small car sourcing options involving Ford of Europe, Mazda Motors of Japan, and foreign mini car producers also appear to be under study.

Ford's product actions in the compact, intermediate and large car markets seem much clearer for the rest of the 1980's. Its Tempo/Topaz line will compete in the compact market, while its brand new Thunderbird/Cougar line carves out a major niche in the intermediate market. Ford's new strategy for the compact market also involves importing a limited number of German-built, mid-size specialty cars beginning in the fall of 1984. In 1986, Ford will introduce a new standard, front-wheel drive intermediate-size car, while continuing to rely on its current rear-wheel drive large car platform as long as it remains viable.

Chrysler Corporation

Chrysler recently announced part of its strategy for future small car production. Chrysler plans to build a new upscale subcompact in the United States ("P" car), while continuing to explore other options with Mitsubishi and a Korean company (Samsung Group) for production of a more basic subcompact car similar to its current Omni and Horizon models. These models are scheduled for replacement in 1986 or 1987. Regardless of its decision on the Omni/Horizon replacement, Chrysler apparently plans to continue to purchase as many Japanese-built Mitsubishi small cars as possible for sale under Chrysler nameplates.

In the compact and intermediate market segments, Chrysler will continue to offer K-car derivatives in an attempt to limit the extra costs associated with designing and building several diverse vehicle platforms. Chrysler also plans to introduce a new front-wheel drive intermediate in early 1985 and to continue to produce rear-wheel drive intermediates as long as demand warrants.

American Motors Corporation

American Motors Corporation will continue to build Renault "Alliance" and "Encore" subcompacts in Kenosha, Wisconsin and to expand cooperative activities with its larger French partner. These activities include extensive collaboration in designing new products and purchasing engines and other major components from Renault and its overseas subsidiaries (e.g., Mexico). By mid-decade, AMC plans to broaden its model line-up to include intermediate cars, which will be assembled at a new plant in Brampton, Ontario.

A comprehensive listing of the publicly announced future product plans of U.S. auto manufacturers appears in Appendix IV of this report.

Financial Outlook for U.S. Auto Manufacturers

After-tax earnings of the U.S. Big Four auto makers rose dramatically from 1982 to 1983 and in the first half of 1984, and should remain strong through at least 1985. Despite large demands on industry resources for R & D activities, plant modernization, dividends and debt retirement, internally generated funds should be sufficient to allow domestic producers to increase working capital levels. This assessment, however, could be upset if industry labor costs rise more rapidly than expected; if anticipated dividend and debt retirement policies become untenable due to stockholder or other pressures; if foreign producers' U.S. sales share rises sharply; or if the present sales recovery slows significantly next year. Under any scenario, sustained profitability will be required to offset the over $30 billion funds shortfall from operations accumulated during the 1979-83 period, and to finance anticipated capital investments of $50 billion or more during the next five years.

Under the Department's forecast, domestic industry net earnings are likely to equal or slightly exceed $10 billion annually in 1984 and 1985. As in 1983 and the first half of 1984, increased earnings through 1985 should lead to substantial improvement in the industry's overall financial position. Assuming the moderate growth environment described earlier, four factors in particular should have a major effect on the rate at which U.S. manufacturers as a group will be able to restore their balance sheets to a pre-recession condition. These are: future dividend policies; the scheduling of debt retirements; the scale and pace of capital spending programs; and recent changes in employee compensation.

Domestic industry dividend payments, like profits, fell steadily between 1977 and 1982 (see Table IV-6). Nonetheless, from 1975 to 1979, General Motors, Ford and Chrysler distributed an average of 50 percent of their combined net income to stockholders. In contrast, dividends exceeded industry earnings by a large margin during the 1980-82 period, before declining sharply as a percentage of net income in 1983 as profits rebounded.

Table IV-6

U.S. Big Three Profits, Dividends and Payout Ratios, 1975-1983
(million of dollars)

Period	Net Income	Dividends	Dividends As Percentage of Net Income
1975	$1,316	$ 944	71.7%
1976	4,309	1,884	43.7%
1977	5,174	2,371	45.8
1978	4,892	2,195	44.9
1979	2,965	2,014	67.9
1980	(4,016)	1,187	NA
1981	(1,203)	875	NA
1982	475	750	NA
1983	6,298	1,100	17.5

NA= not applicable or meaningful.
Sources: Company annual reports.

Over the next few years, two alternative scenarios regarding dividend payout ratios are possible. One option--full restoration of dividend payments to the average 1975-79 level beginning in late 1984--would greatly reduce the availability of internal-source funds for other important uses. A more likely alternative--gradual reinstatement of payments to stockholders through the mid-to-late 1980's--would permit a more rapid build-up in industry working capital for use in new product development, plant modernization and debt retirement.

Long-term debt retirements also will continue to make a major claim on the profits of U.S. auto manufacturers. At the end of 1983, the long-term debt of the Big Three producers totaled nearly $7 billion, twice the average level held during the 1975-1979 period. Thus, despite an impressive $2 billion net reduction in its long-term debt from 1982 to 1983, the industry is likely to devote substantial resources to debt retirement over the next few years. If domestic manufacturers choose to emphasize this objective at the expense of competing goals (e.g., increased dividend payments and new product development), anticipated funds from operations would be sufficient to allow for accelerated reductions in this $7 billion long-term debt. Under a more likely scenario, necessary debt retirements would be spread over the next five years, with the largest cuts occurring in 1984 and 1985 to reduce both total interest expense and the average interest rate on outstanding loan balances. Based on the Department's analysis, Big Three manufacturers are unlikely to generate enough cash flow internally to support both an aggressive dividend policy and debt retirement schedule, while still permiting a rapid rebuilding of working capital levels and expansion of investments in new plants and products.

Capital spending by U.S. auto makers is expected to total $50 billion or more during the next five years based on recent public announcements. These investments will continue to represent the largest single use of U.S. industry funds. Given the importance of reducing the competitive advantages of Japanese manufacturers, funding of investments in new products, plants and equipment will receive top priority over the next several years. The danger, however, is that an unforeseen sales downturn or mounting pressure from other potential users of industry funds (creditors or shareholders) could force a serious reduction in essential capital investments during the critical transition period ahead.

A final key factor affecting the ability of U.S. auto producers to restore their financial condition will be the implementation of the U.A.W.'s recent contract settlements with General Motors and Ford. As outlined in the previous chapter, the new contracts should not increase unit labor costs and will preserve the companies' flexibility to restructure operations and implement cost reduction and productivity improvement measures. Thus, the new contracts are not expected to have a substantial adverse impact on future industry profitability.

Industry Employment Outlook

Industry efforts to control labor costs and increase productivity, and the long-term trend toward production of smaller vehicles requiring lower labor inputs, will continue to restrain U.S. employment growth in auto manufacturing in the future. Employment increases of around 10 percent during 1984 appear likely; this is the equivalent of about one-half of the anticipated gain in car and truck production from 1983 to 1984. Beyond 1984, anticipated productivity increases of around 5 percent per year are likely to forestall employment increases that otherwise would be expected based on the expansion of car and truck output.

While some of those remaining on layoff could be recalled over the next few years as the sales recovery continues, industry employment is expected to remain well below the record 1978 level. One recent forecast of auto industry employment trends--based on vehicle sales, productivity and import share assumptions similar to those appearing in this report--indicate that U.S. automotive employment (SIC 371) will decline to about 778,000 by 1990.[6/] This represents more than a 20 percent reduction in industry jobs from peak 1978 levels, and a 9 percent decline from the average January-June 1984 level of 856,600.

[6/] The Future of the Automobile, The Report of MIT's International Automobile Program, Daniel Roos and Alan Altshuler, Co-Directors, p. 204.

CHAPTER V: THE ROLE OF GOVERNMENT POLICIES TOWARD THE AUTO INDUSTRY

As outlined in previous chapters, the U.S. auto industry has made great progress since 1980 in preparing itself to meet increased international competition during the balance of the decade. Federal, state and local governments have played an important supportive role in this process by facilitating necessary structural changes within the industry. In the future, government must continue to provide the kind of economic environment in which both vehicle manufacturers and their employees can adapt to the ongoing changes that face the industry.

Based on the analyses contained in this report, a strong economy is likely to be just as important an element in the U.S. auto industry's future success as it was in supporting the industry's recovery during the past two years. To ensure such an economy beyond 1984, the Administration is continuing the efforts it has made since 1981 to remove unnecessary tax, regulatory and other barriers to greater industry productivity and competitiveness, and to create a stable climate for capital investment and sales growth. In addition, the Administration has continued to review existing income maintenance and retraining programs to ensure that there is a strong support network for unemployed workers.

Government Actions on Behalf of the Auto Industry, 1981-84

The automobile industry has made substantial progress on its own to improve its competitive condition since the sharp sales downturn of 1980. Indeed, advances in the key areas of product development, cost control and quality improvement could only be achieved by the industry. Such efforts, however, relied heavily on the government's ability to stabilize and then improve the economic situation. To promote this objective, the Reagan Administration developed and gained Congressional approval for a far-reaching Economic Recovery Program in 1981. The program included major tax cuts, regulatory relief and measures to slow down the growth in federal spending in order to foster economic growth and reduce inflation. By creating a healthy economic environment, this program has and will continue to enhance the long-term prospects of the automobile industry more effectively than could any direct government intervention in the marketplace or permanent restrictions on competition.

In addition to its efforts to stimulate economic growth and resist protectionist legislation, the Administration implemented a program aimed at relieving the regulatory burden on the auto industry. The Administration's program concentrated on those rules which the regulatory agencies and the President's Task Force on Regulatory Relief considered unnecessarily stringent, and which could be delayed, rescinded, or modified with little or no effect on basic regulatory goals.

A total of 34 auto-related regulations were identified that produced inordinate costs or burdens relative to their anticipated benefits. An additional 15 regulatory issues were singled out for further study. The regulatory relief program was expected to provide capital expenditure savings to the industry of $1.4 billion and total consumer savings of $9.3 billion over a 5-year period. Action has been taken on the 34 regulations identified for reform and a significant portion of the expected savings is now being realized.

During the past year, the Administration also has pushed successfully for specific Japanese Government actions to liberalize Japan's capital markets, internationalize the yen and allow the yen to reflect more fully its underlying strength. Over the longer term, this effort could result in a more stable yen/dollar exchange relationship and a gradual strengthening of the yen relative to the dollar. Achievement of these objectives would support actions by U.S. vehicle manufacturers and producers in other domestic industries to improve their worldwide competitive position. For this reason, the Administration, in cooperation with the Japanese Goverment, is closely monitoring progress toward implementation of agreed liberalization measures.

Other issues of special concern to several U.S. auto manufacturers--most notably the effects on U.S. industry of Japan's commodity tax and other nations' value-added taxes on automobiles--recently have been brought to the attention of the Administration. These taxes typically are quite large (roughly 10 to 40 percent of vehicle value depending on the country) and are widely used by major auto-producing nations with the exception of the United States. Because these taxes are substantial and can be rebated on exported units under recognized international trading norms, they tend to depress automobile consumption in the countries imposing them and may encourage exports.

At present, there is considerable disagreement among both industry and tax experts about the extent of these tax effects and their impact on the competitiveness of U.S. vehicle producers. However, given the potential importance of this set of issues to U.S. auto industry adjustment efforts, the Administration is intensifying its examination of the effects of differences in international tax treatment of motor vehicles.

Japanese Automobile Export Restraints

An important factor influencing the revitalization program of the U.S. automobile industry has been the Japanese Government's unilateral restraint on automobile exports to the United States. From April 1, 1981 to March 31, 1984, Japan held its annual exports of passenger cars (including station wagons, passenger vans and certain utility vehicles) to the United States at 1,762,500 units and to Puerto Rico at 70,000 units. In November 1983, the Japanese Government announced it would limit automobile exports to the United States and Puerto Rico for a fourth year at 1,940,850 and 77,080 units, respectively. These current restraints are scheduled to expire on March 31, 1985. As of December 1, 1984, the Japanese Government had not announced whether it planned to restrain automobile exports to the United States and Puerto Rico for an additional year.

The Japanese automobile export restraints originally were intended to provide a two-to-three year adjustment period which would allow U.S. manufacturers to complete initial vehicle downsizing programs, increase small car capacity and take other necessary steps to revitalize their industry. Supporting U.S. Government actions on behalf of U.S. vehicle companies, such as regulatory reform and efforts to promote economic recovery, also were recognized in the Japanese Government's May 1, 1981 statement on the export restraints. In announcing the extension of the restraints for a fourth year at a higher level, the Japanese Government noted that its action was intended as a transitional measure to reduce uncertainty and prevent the possibility of a sharp increase in Japanese exports during a period of U.S. market improvement.

Ongoing Regulatory Issues

CAFE Requirements

Fuel economy regulations, which were not included in the Administration's regulatory reform package, also have been a cause of concern for a major part of the domestic industry. By 1980, each of the U.S. companies had product programs in place to achieve compliance with fuel economy standards based on anticipated trends in fuel prices and its expected future product mix. Through model year (MY) 1982, all U.S. companies met or exceeded mandated fuel economy standards. However, beginning in MY 1983 (October 1982 - September 1983), both General Motors and Ford failed to achieve the 26.0 miles per gallon (mpg) Corporate Average Fuel Economy (CAFE) standard mandated for that year under U.S. law. Both companies were able to avoid paying penalties for falling short of the MY 1983 standards by drawing on CAFE credits built up in previous years.

General Motors and Ford probably again will fail to meet the CAFE standard for MY 1984 (27.0 mpg), while Chrysler projects it will exceed the standard by 0.1 mpg. The recent popularity of larger, less fuel-efficient cars is expected to hold GM's CAFE level in MY 1984 at 24.8 mpg and Ford's at 25.3 mpg. If the current model mix of sales continues, as appears likely, GM and Ford probably again will fall short of the standard in the 1985 model year (27.5 mpg).

The MY 1985 standard of 27.5 mpg will remain in effect indefinitely unless modified by federal legislation. Beginning in model year 1986, both GM and Ford expect to achieve CAFE levels which are far enough above this standard to earn sufficient credits to offset anticipated shortfalls in the 1984 and 1985 model years. Provided the companies' projections are realized, the firms will avoid fines for falling below the standard.

Passive Restraints

In October 1981, the Department of Transportation (DOT) rescinded an earlier rule requiring all new cars to be equipped with automatic devices to protect front-seat occupants in crashes. In June 1983, following lower court appeals in opposition to DOT's decision to rescind this rule, the Supreme Court remanded the issue to DOT for further consideration.

After soliciting public comments and holding a series of public hearings, DOT issued a new rule on July 11, 1984. This rule requires that all passenger cars sold in the United Stated be equipped with automatic restraints for front-seat occupants effective with the 1990 model year. This requirement would be waived if states representing two-thirds of the U.S. population enact mandatory seat belt usage laws before April 1, 1989. Under the rule, automatic crash protection equipment must meet performance requirements for protecting the driver and front seat passenger in a 30 mile-per-hour crash into a fixed barrier. Protection equipment may include air bags, automatic seat belts or new technologies, such as energy-absorbing (so-called "friendly") interiors. The rule will be phased in with 10 percent of 1987 model cars required to be so equipped, 25 percent of 1988 models and 40 percent of 1989 models.

The Challenge of Assisting the Unemployed

No challenge in the effort to increase the competitiveness of the U.S. auto industry is more important or sensitive than that of dealing with workers affected by structural change. In the past, the auto industry has weathered cyclical recessions, most of them for limited periods. Traditionally, workers laid off during these downturns expected to be recalled, and most of them were within a reasonable period of time.

Chapter II of this report indicated that large numbers of auto workers placed on indefinite layoff since 1980 have been recalled. Many other laid-off workers have found other employment. In March 1984, the number of industry workers on indefinite layoff fell below 100,000 for the first time since 1980. But it appears that a significant portion of those remaining on indefinite layoff, and of those whose eligibility for recall expired before they found employment, will continue to be without jobs. As structural changes in the industry continue, it is likely that additional long-term or permanent layoffs will take place.

These changes are a function of the industry's progress. But they are often a tragedy for those most directly affected. One key challenge has been and will continue to be how society, including government, labor, and industry, will assist auto workers affected by structural change. To address this question, the Department of Commerce commissioned the University of Michigan and Boston College to study representative groups of workers from numerous auto facilities in Michigan who had been on indefinite layoff for an extended period. At the time this report was being prepared, only preliminary results of the University of Michigan's study were available.

Data examined on the worker groups studied included current employment status (recalled to an auto job, employed at a non-auto firm, not working but looking for a job, and not working and not looking), complete employment and earnings histories since the last layoff, and information on individuals' participation in income assistance, job search and retraining programs and on the extent of personal job searches. Extensive data on personal background, education, seniority, age and gender were reviewed.

The University of Michigan study was designed to address several major questions surrounding the status of unemployed autoworkers.

1. Is there a "typical worker" who has been subject to extended layoff? Does that worker differ from one laid off in past cyclical downturns?

The average age of workers studied was 34.6 years old. This is substantially younger than auto workers affected by past displacements, who were on average 48 years old. Studied workers had an average seniority of 6.4 years, compared with 19 years historically, but their education levels were slightly higher: 11.9 years versus 10.6 years historically. The age and seniority statistics are very significant, because they indicate that in the 1979-83 period, most layoffs were the result of reductions in the numbers of workers at plants, rather than of permanent plant closings.

2. Were the conditions of the recent layoffs different from those experienced in the past, and what are the implications of this?

At no time of auto industry layoffs in the past 25 years did displaced workers enter local labor makets which had such high rates of unemployment. During past recessions, laid-off workers had been told they would not be recalled, only to be recalled when the recession ended. Thus, during the recent downturn, many workers initially did not believe that their layoffs were permanent. This uncertainty, plus limited employment opportunities meant that early retraining opportunities, and early incentives to look for new jobs, did not exist, or were not encouraged. Thus, many who could have taken steps early on if there had been a clear understanding that the situation was serious, waited to be recalled, and found themselves without job prospects or sufficient income assistance.

3. How effective were the income maintenance programs available to laid-off workers?

The income maintenance programs available to laid-off auto workers were Unemployment Insurance (UI) with legislated extensions, Trade Adjustment Assistance (TAA) and collectively bargained (industry-funded) Supplemental Unemployment Benefits (SUB). If unemployment became long-term, some workers also utilized public assistance programs.

Table V-1 indicates that workers with short layoff periods (under one year), and higher seniority (ten years or more), were able to offset more than one-half of the gross income they lost as a result of layoffs occurring between 1980 and 1982. This was generally not true for workers with low seniority who experienced longer periods of layoff. Average total 1982 income, for the displaced worker only, from all sources except other household income, was $8,767, (see Table V-2).

When total 1982 household income is taken into account, as shown in Table V-2, the average total income of studied workers rose to $18,834. This represented 59 percent of the potential gross household income of these households. Again, workers with longer layoffs did not fare as well as others. As Table V-3 indicates, average total household income for workers laid off for less than one year equaled about $23,350, or 71 percent of their potential household income, while average household income for workers laid off for one-to-two years totaled $16,500, or 49 percent of potential household income.

These figures demonstrate that the "safety net" of government and industry-labor income maintenance programs for unemployed auto workers has helped provide a basic income level to most affected households for a layoff period of up to one year. For workers experiencing longer periods of unemployment, and for those whose access to income maintenance assistance is limited, adjustment programs are especially important. Some programs, like those under the Comprehensive Employment and Training Act (CETA) and Trade Adjustment Assistance (TAA), were available in 1980-1981, but supplemental programs were needed. New government and industry-sponsored programs of direct benefit to displaced auto workers were introduced in 1982 and 1983. These included local community programs like the Downriver Community Conference in Wayne County, Michigan, joint labor-management counseling and retraining programs (especially Ford-UAW and GM-UAW), and 14 Michigan programs funded under the Federal Jobs Training Partnership Act (JTPA). As of mid-1984, Michigan programs under the JTPA involved almost $20 million in Federal and State funds, and served more than 7,000 workers.

Over half the workers studied by the University of Michigan participated in one or more retraining programs. Generally, younger, better educated employees participated more than older workers. High seniority, short layoff and participation in retraining programs all helped raise the income levels of the displaced workers studied. Most existing retraining programs have not been in effect long enough to allow any conclusive determination as to how much, and for which groups, they enhanced reemployment prospects.

Table V-1
Weighted Unemployment Experience Results

Outcome Statistic*	Total	Layoff Bracket*			Age Bracket* N = 9655 (n = 329)			Seniority Bracket*		
		Under 1 yr.	1-2 yrs.	2 & Over	To 30	To 40	40 & Over	To 5	To 10	10 & Over
N	9860	3448	3090	3322	4000	3578	2287	4,792	4,114	954
(%)	(100.0)	(35.0)	(31.3)	(33.7)	(40.6)	(36.3)	(24.1)	(48.6)	(41.7)	(9.7)
n	336	129	94	113	137	122	70	156	145	35
(%)	(100.0)	(38.4)	(28.0)	(33.6)	(40.8)	(36.3)	(20.8)	(46.4)	(43.2)	(10.4)
1. Total Compensation	$									
Average	5066	2903	5633	6782	5323	4941	5108	4923	5144	4987
Median	3700	2444	4864	5300	3720	3500	4255	3940	3350	3800
2. % Income Replaced by Compensation	%									
Average	29.4	54.7	19.4	12.4	29.3	29.4	31.5	20.1	33.4	58.5
Median	21.9	41.4	18.3	9.9	21.6	23.3	21.2	14.4	26.2	41.4
3. Compensation Weeks (UI/TRA/SUB)										
Average	22.7	10.7	25.4	32.5	24.3	22.4	21.6	23.7	22.9	16.5
Median	15.1	10.4	24.9	29.2	16.8	14.4	15.6	19.7	13.9	12.8
4. Participation Rate Non-Income Programs	%									
% Participated	52.2	44.7	49.6	61.7	53.7	55.3	45.1	48.1	56.2	55.4
5. Participation Rate UI/TRA Compensation										
% Participated	81.9	85.0	75.7	84.3	86.7	76.2	85.9	84.2	78.4	85.5
6. Participation Rate SUB										
% Participated	41.7	46.6	40.0	38.2	42.4	44.1	40.5	33.8	47.7	55.3

Note: Medians are 50% quantile medians.

* See the attached notes.

Table V-1 Notes

Bracket Definitions

Layoff:

Under 1 Yr.	Respondents laid-off 1-51 weeks through December 31, 1982.
1 - 2 yrs.	Respondents laid-off 52 - 103 weeks through December 31, 1982.
2 yrs. & Over	Respondents laid-off 104 or more weeks through December 31, 1982.

Age:

To 30	Respondents less than 30 years of age at time of response.
To 40	Respondents whose age ranged from 30 years of age to 39 years of age at time of response.
40 & over	Respondents whose age, at time of response, was 40 or older.

Seniority:

To 5	Respondents whose company seniority was less than 5 years at time of last layoff.
To 10	Respondents whose company seniority was 5 to 9 years at time of last layoff.
10 & over	Respondents whose company seniority was 10 years or more at time of layoff.

Outcome Statistics

1. **Total Compensation**

   Sum total of dollar payments received by auto layoffs since last layoff from Unemployment Insurance Compensation, Trade Adjustment Assistance Act, and Supplementary Unemployment Benefits funds during 1980-1982 period.

2. **% Income Replaced by Compensation**

   The percentage of potential auto income replaced by total compensation during layoff period in 1980-1982.

3. **Compensation Weeks**

   Number of weeks laid-off workers received UI/TAA payments since last layoff during 1980-1982 period.

4. **Participation Rate, Non-Income Programs**

   Weighted participation rates of population laid off previous to 1983. Participation for this group may have occurred in 1983.

5. **Participation Rate, UI/TRA Compensation**

   Weighted percentage participation of pre-1983 laid-off workers who received UI compensation since their last layoff through December 31, 1982.

6. **Participation Rate, SUB**

   Weighted percentage participation of pre-1983 laid-off workers who received Supplementary Benefits since their last layoff through December 31, 1982.

Table V-2
Auto Layoff Household Income 1982 by Income Source

Income Source	Amount		N	Weighted N	As a % of Potential[1] Household Income		N	Weighted N
	Average	Median*			Average	Median*		
Earnings by Respondent	$8,767.0	$5,000.3	310	9132	31.3%	21.1%	250	7403
Earnings by Family Members	5,310.7	0.0	281	8313	12.3	0.0	257	7631
UI & TRA by Respondent	2,127.7	787.9	336	9860	7.7	2.8	239	7094
SUB by Respondent	232.0	0.0	336	9860	0.0	0.0	239	7094
UI by Family Members	147.4	0.0	336	9860	0.0	0.0	239	7094
Other Compensations[2] by Respondent	579.7	0.0	321	9414	2.8	0.0	239	7094
Other Compensations[2] by Family Members	155.9	0.0	325	9544	0.4	0.0	239	7094
Business Income	654.2	0.0	319	9382	2.0	0.0	239	7094
Private Contributions	75.9	0.0	317	9299	0.2	0.0	239	7094
Interest or Dividends	118.8	0.0	298	8828	0.3	0.0	239	7094
Total Income	18,834.1	14,999.9	239	7094	58.9	58.3	239	7094
Net Income Loss	10,812.9	12,460.9	239	7094	41.1	41.7	239	7094

[1] Potential Household Income:

respondent's auto wage loss[3] + earnings by family members + UI and other compensation by family members + business income + interest and/or dividends.

[2] Other Compensations:
- Social security
- Veterans compensation or pension
- Workmen's compensation
- Aid to the blind or the permanently or totally disabled
- Public assistance or welfare payments
- Pensions from local, state or federal government
- Other compensation type not listed

[3] Respondent's Auto Wage Loss: (auto hourly wage + COLA) × 40 hours × 52 weeks

* Medians are 50% quantile medians.
0.0 medians represent distribution where at least half of the population is estimated to have a 0.0 value.

Table V-3
Auto Layoff Household Income 1982 by Layoff, Age, and Seniority Bracket

Income Source	Total	Layoff Bracket			Age Bracket N = 9655 (n = 329)			Seniority Bracket		
		Under 1 yr.	1-2 yrs.	2 & Over	To 30	To 40	40 & Over	To 5	To 10	10 & Over
N	9,860	3,448	3,090	3,322	4,000	3,578	2,287	4,792	4,114	954
(%)	(100.0)	(35.0)	(31.3)	(33.7)	(40.6)	(36.3)	(24.1)	(48.6)	(41.7)	(9.7)
n	336	129	94	113	137	122	70	156	145	35
(%)	(100.0)	(38.4)	(28.0)	(33.6)	(40.8)	(36.3)	(20.8)	(46.4)	(43.2)	(10.4)
1. Private Earnings	$									
Average	14959	19660	11201	13238	13870	16013	15841	15931	15336	12042
Median	12000	18000	6000	11000	10200	14000	12000	13100	12000	7500
% of Potential Household Income	%									
Average	45.6	59.7	30.3	44.8	43.8	47.2	47.8	49.0	43.8	40.6
Median	49.2	61.8	25.0	50.2	49.1	53.1	48.5	53.1	48.1	31.5
2. UI/TRA/SUB	$									
Average	2507	2761	3993	862	2079	2715	3762	2012	2906	2926
Median	1188	2444	2400	0	788	1379	2600	800	1890	855
% of Potential Household Income	%									
Average	9.0	9.3	14.3	3.7	7.1	10.0	14.2	7.6	10.3	9.8
Median	4.7	7.2	8.0	0.0	2.4	5.1	7.8	4.0	5.3	2.8
3. All other Compensations	$									
Average	758	515	939	851	895	590	811	742	750	856
Median	0	0	0	0	0	0	0	0	0	0
% of Potential Household Income	%									
Average	3.2	2.0	3.0	5.4	3.4	3.7	4.1	2.6	3.6	3.7
Median	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Total Income	$									
Average	18834	23369	16548	15844	16826	20666	20812	19507	19385	15950
Median	15000	20,882	12088	12225	12088	18500	15000	16787	14900	12600
% of Potential Household Income	%									
Average	58.9	70.9	48.9	54.7	54.1	62.7	65.8	60.5	58.4	54.2
Median	58.3	72.9	48.8	52.6	51.3	65.3	65.5	59.3	56.3	51.3
5. Net Loss	$									
Average	10813	8422	13907	10565	11534	10270	9614	10058	11242	12147
Median	12461	9086	15914	13021	13055	11903	11962	12198	12044	14995
% of Potential Household Income	%									
Average	41.1	29.1	51.1	45.3	45.9	37.3	34.2	39.5	41.6	45.8
Median	41.7	26.4	51.2	46.0	47.7	33.9	34.5	40.1	40.2	48.7

Classification of Automobiles by Market Segment

Subcompact Cars

Domestic

Chevette, Cavalier, Pontiac 1000, Pontiac 2000, Firenza, Skyhawk Escort, Lynx, Horizon, Omni, Encore, Alliance, Golf (Rabbit), Camaro, Fiero, Firebird, Mustang, Ford EXP, Capri, Laser, Daytona, Turismo, Accord (U.S.-built version)

Japanese Imports

Colt, Champ, Vista, Conquest, Challenger, Sapporo, Sprint, Spectrum, Corolla, Tercel, Camry, Celica, Toyota Van, 4-Runner SR5, Land Cruiser, Starlet, Toyota Hawaii, Sentra, Nissan 200SX, Stanza, Pulsar, Pulsar NX, Nissan Hawaii, Civic, Accord (Japanese-built version), Prelude, Mazda 626, GLC, Tredia, Cordia, Starion, Mirage, Impulse, I-Mark, Subaru (all models)

European Imports

Audi 4000, Quattro 4000S, Coupe, Quattro Coupe, 4000 Diesel, Jetta, Vanagon, Scirocco, Quantum, Cabriolet, Renault (all models), Saab (all models), Fiat (all models)

Compact Cars

Domestic

Citation, Phoenix, Omega, Skylark, Tempo, Topaz, Reliant, Aries, Grand Am, Calais, Somerset, Dodge 600 (400) 2-door, Lebaron, Eagle

Japanese Imports

Maxima, Cressida, Mitsubishi Galant

European Imports

Audi 5000, 5000 Turbo, 5000 Turbodiesel, Volvo (all models), Peugeot (all models)

Intermediate Cars

Domestic

Celebrity, Malibu, Pontiac 6000, Bonneville, Ciera, Supreme, Century (fwd), Regal, LTD, Granada, Marquis, Gran Fury, Caravelle, 5th Avenue, New Yorker (fwd), Chrysler E-Class, Dodge 600 (4-door), Diplomat, Monte Carlo, Grand Prix, Thunderbird, Cougar

Full-Size Cars

Domestic

Chevrolet, Ford, Pontiac, Oldsmobile 88, Oldsmobile 98, LeSabre, Electra, Grand Marquis, Toronado, Riviera

Luxury/Specialty Cars

Domestic

Oldsmobile 98 (fwd), Electra (fwd), Cadillac (fwd), Cadillac (rwd), Lincoln, Corvette, Cimarron, Seville, Eldorado, Continental, Mark, Imperial

Japanese Imports

Celica Supra, Nissan 300 ZX, Mazda RX-7

European Imports

BMW, Alfa Romeo, Lancia, Ferrari, Mercedes Benz, Jaguar, Porsche, DeLorean

Japanese Producers:
Anticipated Product Actions, 1984-87
(VRA = Voluntary restraint agreement quota for 1984/85)

Toyota Motor Sales USA (VRA = 551,800)

Cars: MR2 two-seater sports coupe -- aimed at Pontiac Fiero and Nissan Pulsar NX (Fall, 1984).

Starlet adopts FWD and 1.1 liter engine -- aimed at U.S. minicar segment (Spring, 1985).

Redesigned Cressida -- aimed at U.S. luxury compact market (Fall, 1984). Six-passenger luxury version targeted for 1986.

Trucks: 4Runner sports/utility imported under both car and truck classifications -- aimed at GM and Ford compact utility vehicles.

Compact vans imported as cars under VRA restrictions with truck version for commercial users -- aimed at U.S. compact van producers.

Nissan Motor Corp. USA (VRA = 487,100)

Cars: Cedric RWD six-passenger car -- aimed at U.S. luxury compact market (3.0L V-6 engine) (Fall, 1985).

Maxima FWD replacement -- aimed at U.S. compact market (3.0L V-6 engine) (Fall, 1984).

March minicar -- aimed at minicar segment (1985).

Trucks: Japanese compact van, the Ambivan, could be exported to U.S. once decision is made in Japan. Same is true for sports/ utility Patrol.

Subaru Motors of America (VRA = 75,800)

Cars: All new front- and 4-wheel drive sedans and wagons aimed at U.S. subcompact market (Fall, 1984).

Sports coupe with turbocharged engine (Spring, 1985)

American Honda Motor Co. (VRA = 372,400)

Cars: Accord redesigned in 1985 -- aimed at U.S. compact market.

"HX" FWD sedan with V-6 engine and/or "XX" Honda/BL joint venture from Great Britain -- aimed at U.S. compact market.

City minicar -- aimed at U.S. minicar segment if market develops.

Trucks: No plans anticipated.

Mazda Motors of America (VRA = 173,500)

Cars: 929/Luce may be introduced in 1985 -- aimed at U.S. luxury compact market.

GLC redesigned in 1986.

626 may be built in U.S. for sale by Mazda dealers and to Ford -- aimed at U.S. compact market.

Trucks: Redesigned compact pickup truck to compete more directly with U.S. company offerings.

American Isuzu Motors (VRA: GM = 33,000; Isuzu = 17,000)

Cars: R-car to be sold by both GM and Isuzu dealers -- aimed at subcompact market, but Isuzu version more upscale.

Aska, Isuzu's J-car, will be introduced in 1985 -- aimed at subcompact market.

Trucks: Trooper II sports/utility truck -- aimed at U.S. compact truck market.

Mitsubishi Motor Sales of America (VRA = 122,400)

Cars: Redesigned, upgraded subcompact to be sold by both Mitsubishi and Chrysler (Fall, 1984).

Galant/Sigma new in 1985 -- aimed at U.S. compact market.

Four-wheel-drive versions of subcompacts may be imported in 1985.

Trucks: Will debut its own version of the Chrysler/Mitsubishi Vista compact passenger van called the Chariot.

Other Japanese and Asian Producers

Suzuki (VRA=17,000)	Supplying GM with minicar in 1984, may consider opening up its own dealer network.
Daihatsu	Despite its ties with Toyota, may independently market minicar -- Charade or Cuore -- if market warrants.
Hyundai (So. Korea)	Now markets Pony subcompact in Canada. May market similar car in U.S. beginning in 1986.
Daewoo (So. Korea)	Will begin supplying GM (Pontiac) with a subcompact in 1986.

Vehicle Classification - 1985 Sales Outlook

Small Cars

U.S./Canadian-Built

Chevette, Cavalier, Pontiac 1000, Pontiac 2000, Firenza, Skyhawk, Escort, Lynx, Horizon, Omni, Encore, Alliance, Golf (Rabbit), Camaro, Firebird, Fiero, Mustang, Ford EXP, Capri, Laser, Daytona, Turismo, Charger

U.S.-Built Japanese

Accord, Sentra, Nova (NUMMI)

"Captive" Japanese Imports

Colt, Champ, Vista, Conquest, Challenger, Sapporo, Sprint, Spectrum

Non-Captive Japanese Imports

Corolla, Tercel, Camry, Celica, Toyota Van, 4-Runner SR5, Land Cruiser, Starlet, Toyota Hawaii, Supra, Sentra, Nissan 300 ZX, 200 SX, Stanza, Pulsar, Pulsar NX, Nissan Hawaii, Civic, Accord (non-U.S. version), Prelude, Mazda 626, GLC, RX-7, Tredia, Cordia, Starion, Mirage, Impulse, I-Mark, Subaru (all models)

European Imports

Audi 4000, Quattro 4000S, Coupe, Quattro Coupe, 4000 Diesel, Jetta, Vanagon, Scirocco, Quantum, Cabriolet, Porsche, Renault, Saab, Alfa Romeo, Ferrari, Fiat

Mid-Size Cars

U.S./Canadian-Built

All domestic compact and intermediate segment models as reported in Wards Automotive Reports

Japanese Imports

Cressida, Maxima, Mitsubishi Galant

European Imports

Audi 5000, 5000 Turbo, 5000 Turbodiesel, Peugeot, Jaguar, Volvo, BMW, Mercedes Benz, Lancia

Large Cars

U.S./Canadian-Built

All domestic full-size and luxury segment models as reported in *Wards Automotive Reports*

Japanese Imports

None

European Imports

None

U.S. Car Producers: Anticipated Product Actions By Size Class

Small Cars	Body Designation	Nameplate(s)	Production Site(s)	Capacity	Plan	Date	Comment
General Motors	J-body	Cavalier 2000 Sunbird Firenza Skyhawk Cimarron	Janesville Leeds Lordstown	900,000	No change	-	
	T-body	Chevette 1000	Lakewood	250,000	Discontinue	Summer, 86	
	F-body (GM-80)	Camaro Firebird	Norwood Van Nuys	500,000	Redesign	Summer, 87	FWD version.
	P-body	Fiero	Pontiac	125,000	No change	-	
	Y-body	Corvette	Bowling Green	75,000	No change	-	
	TVX-body (GM-60)	Nova	Fremont	250,000	New	Fall, 85	GM/Toyota joint venture.
	M-body (GM-40)	Sprint	Japan	17,000 - 100,000	New	Summer, 84	Outsourced from Suzuki (mini-car).
	R-body (GM-50)	Spectrum	Japan	33,000 - 200,000	New	Fall, 84	Outsourced from Isuzu.
	-	-	So. Korea	60,000 - 100,000	New	Fall, 86	Outsourced from Daewoo (FWD).
	Saturn	-	U.S.	250,000	New	Fall, 88	Experimental small car project in development stages.

U.S. Car Producers:
Anticipated Product Actions By Size Class

Small Cars	Body Designation	Nameplate(s)	Production Site(s)	Capacity	Plan	Date	Comment
Ford	Erika	Escort Lynx EXP	Edison Wayne Oakville	600,000	No change	-	Oakville tooled for split production between Erika/Topaz. May be replaced in early 90's by European or Japanese design.
	Fox	Mustang Capri	Dearborn	270,000	Discontinue	Summer, 87	See Ford/Mazda (U.S.) and Ford (Mexico).
	Ford/Mazda (U.S.)	"626"	Flat Rock	200,000	New	Summer, 87	Mazda builds new U.S. plant to produce compact for U.S. Mazda and Ford dealers.
	Ford (Mexico)	"GLC"	Mexico	130,000	New	Summer, 87	Ford builds new plant in Hermosillo to produce small car based on Mazda design with Mazda components.
	-	-	Japan	-	New	1987	Minicar from Japan. Possibly Mazda Minx.

U.S. Car Producers:
Anticipated Product Actions By Size Class

Small Cars	Body Designation	Nameplate(s)	Production Site(s)	Capacity	Plan	Date	Comment
Chrysler	L-body	Omni Horizon Charger Turismo	Belvidere	250,000	Discontinue	Winter, 85	Will be dropped so P-body can be built in Belvidere. Replacement will be sourced outside U.S. (Mexico, Japan) or provided through future venture with Mitsubishi in the U.S.
	P-body	-	Belvidere	250,000	New	Spring, 86	See L-body.
	-	Colt Conquest	Japan	125,000	No change	-	Mitsubishi sourced subcompact.
AM/Renault	R-9	Alliance Encore	Kenosha	250,000	No change	-	Will develop larger cars from this platform.
Volkswagen U.S.A	-	Rabbit	Westmoreland	250,000	Discontinue	Summer, 84	Replaced by Golf.
	-	Golf	Westmoreland	250,000	New	Fall, 84	Slightly larger, European-styled replacement.

U.S. Car Producers:
Anticipated Product Actions By Size Class

Small Cars	Body Designation	Nameplate(s)	Production Site(s)	Capacity	Plan	Date	Comment
Honda U.S.A.	-	Accord	Marysville	150,000	No change	-	
	-	Civic	Marysville	150,000	New	Fall, 85	Adding second line to Marysville site.
Nissan U.S.A	-	Sentra	Smyrna	100,000	New	Fall, 85	Adding Sentra production to existing truck plant.

U.S. Car Producers:
Anticipated Product Actions By Size Class

Mid-size Cars	Body Designation	Nameplate(s)	Production Site(s)	Capacity	Plan	Date	Comment
General Motors	X-body	Citation Skylark	Willow Run	250,000	Discontinue	Summer, 86	X-body will be sourced at Oklahoma with A-body for 1986 MY. Tarrytown to build A-body.
		Phoenix Omega	Tarrytown	250,000	Discontinue	Summer, 84	
	N-body (GM-20)	Calais Grand AM Somerset	Lansing (A,B)	350,000	New	Fall, 84	Buick, Pontiac and Oldsmobile debut Fall, 84; Cadillac in Spring, 86.
	A-body	Celebrity 6000 Ciera Century	Doraville Framingham Oklahoma Oshawa (A,B) Tarrytown	1,200,000	Discontinue	Summer, 87	Replaced by W-body.
	G-body	Regal	Arlington	700,000	Discontinue	Summer, 87	Buick, Pontiac and Oldsmobile get W-body and Chevrolet L-body.
		Supreme Bonneville Grand Prix Monte Carlo	St. Therese Pontiac				
	W-body (GM-10)	-	-	1,500,000	New	Fall, 87	Buick, Pontiac and Oldsmobile G-body & A-body replacement to be built in 7 plants.

U.S. Car Producers:
Anticipated Product Actions By Size Class

Mid-size Cars	Body Designation	Nameplate(s)	Production Site(s)	Capacity	Plan	Date	Comment
General Motors	L-body (GM-25)	-	Linden Wilmington	500,000	New	Fall, 86	Chevy mid-size car replacement.
Ford	Topaz	Tempo Topaz	Kansas City Oakville	500,000	No change	-	
	S-shell	Thunderbird Cougar	Lorain Atlanta	350,000	No change	-	Stays RWD and adds Lincoln Mark in 88.
	-	Merkur	West Germany	20,000	New	Fall, 84	Low volume specialty car from Ford/Europe.
	-	Scorpio	West Germany	20,000	New	Spring, 86	Low volume specialty car from Ford/Europe.

U.S. Car Producers:
Anticipated Product Actions By Size Class

Mid-size Cars	Body Designation	Nameplate(s)	Production Site(s)	Capacity	Plan	Date	Comment
Chrysler	K-body KCV-body E-body G-body	Reliant Aries LeBaron Caravelle 600 New Yorker Daytona Laser	Jefferson Ave. Newark St. Louis I	700,000	Discontinue	Summer, 87	May add nameplates to K-body platform which is scheduled to be replaced by A-body in 1987.
	M-body	Gran Fury Diplomat Fifth Avenue	St. Louis II	200,000	Redesigned	Fall, 87	Replaced with FWD version. May be built in Mexico if U.S. plant converted to T-van production.
	H-body	Lancer LeBaron GTS	Sterling Heights	250,000	New	Winter, 84	
	A-body	-	-	-	New	Summer, 87	K-body replacement.
	J-body	-	-	-	New	Fall, 86	Luxury car based on H-body
AMC/Renault	-	Eagle	Brampton	50,000	-	-	AMC plans to discontinue. Will build Renault designed mid-size car at new plant in Canada in 1987.
Volvo Canada	-	DL GL GLT	Halifax	50,000	No change	-	

U.S. Car Producers: Anticipated Product Actions By Size Class

Large Cars	Body Designation	Nameplate(s)	Production Site(s)	Capacity	Plan	Date	Comment
General Motors	B-body	LeSabre Delta 88	Fairfax Detroit Wilimington	600,000	Discontinue	Summer, 85	
		Impala Caprice Parisienne			Discontinue	Summer, 87	Chevrolet and Pontiac continue B-body until 87. Chevrolet may continue longer.
	D-body	Cadillac Limo	Detroit	50,000	Discontinue	Summer, 85	
	H-body (GM-70)	-	Flint (4,40)	400,000	New	Fall, 85	FWD B-body replacement which also be built in Willow Run and Wentzville for 1986 MY.
	C-body (RWD)	Olds 98 Electra Fleetwood DeVille	Detroit Flint (4) Lansing (B)	400,000	Discontinue	Spring, 84	Replaced with C-body (FWD), Flint builds H-body and Lansing N-body.
	C-body (FWD)	Olds 98 Electra Cadillac	Orion Wentzville	500,000	New	Spring, 84	Replacement for C-body (RWD).
	E/K-body (GM-30)	Seville Riviera Toronado	Linden Hamtramck	250,000	Redesign	Summer, 85	All new E/K-body introduced in 1986 MY at Hamtramck. Linden to produce L-body. Other luxury models to be developed from this platform.

U.S. Car Producers:
Anticipated Product Actions By Size Class

Large Cars	Body Designation	Nameplate(s)	Production Site(s)	Capacity	Plan	Date	Comment
Ford	L-shell	LTD Marquis	Atlanta Chicago	350,000	Discontinue	Summer, 85	
	Taurus	Taurus Sable	Atlanta Chicago	350,000	New	Fall, 85	FWD L-shell replacement. Lincoln gets Taurus in Fall, 87.
	Panther	Grand Marquis LTD Crown Victoria Lincoln	Wixom St. Thomas St. Louis	500,000	No change	-	Drops Lincoln in 87. St. Louis builds Aerostar van in Fall, 84.
	LS-shell	Mark VII Continental	Wixom	100,000	No change	-	